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Further Price Increases Expected as Production of Crude Is Curtailed Near to Quota Limits

By ANDREW M. ROWLEY

FURTHER strengthening of the crude oil price structure has resulted from the very substantial decrease in production during the past week. With the output of all fields in the United States within striking distance of the quota set by the Federal oil administrator better prices are justified. Crude oil production must be kept within market requirements in order that the higher prices may be maintained, regardless of whether these prices be fixed by the government or the oil company purchasers.

The present price of 36 gravity crude in the Mid-Continent area is only 22 cents a barrel below the figure of $1.11 per barrel which, it has been expected, would be a base price for the raw material. And, it would not take long to increase the price 22 cents a barrel if production were curtailed to quotas in the different states and the industry were assured effective curtailment would be maintained.

Unselfish co-operation would soon put the petroleum industry on its feet. Production quotas have been set for the different states and the oil industry and state authorities should make up their minds right now to hold production within the limits prescribed without any quibbling or trying to circumvent the letter and spirit of the orders. Fictitious nominations and efforts to get back allowables will not help the situation at this time. Operators may be entitled to these back allowables but now is not the time to try to produce them.

With the gasoline market strengthening along with crude, there was a strong feeling in the Mid-Continent area early this week further price advances were probable. It is believed the base price of somewhere around $1.11 per barrel will be reached quickly by the industry in the normal course of events without it being necessary to invoke the price fixing provisions of the code. The one thing which will maintain a strong market is strict curtailment of production and all indications at this time are the government officials will take whatever steps are necessary to prevent volations of orders and production in excess of quotas allotted the different states.

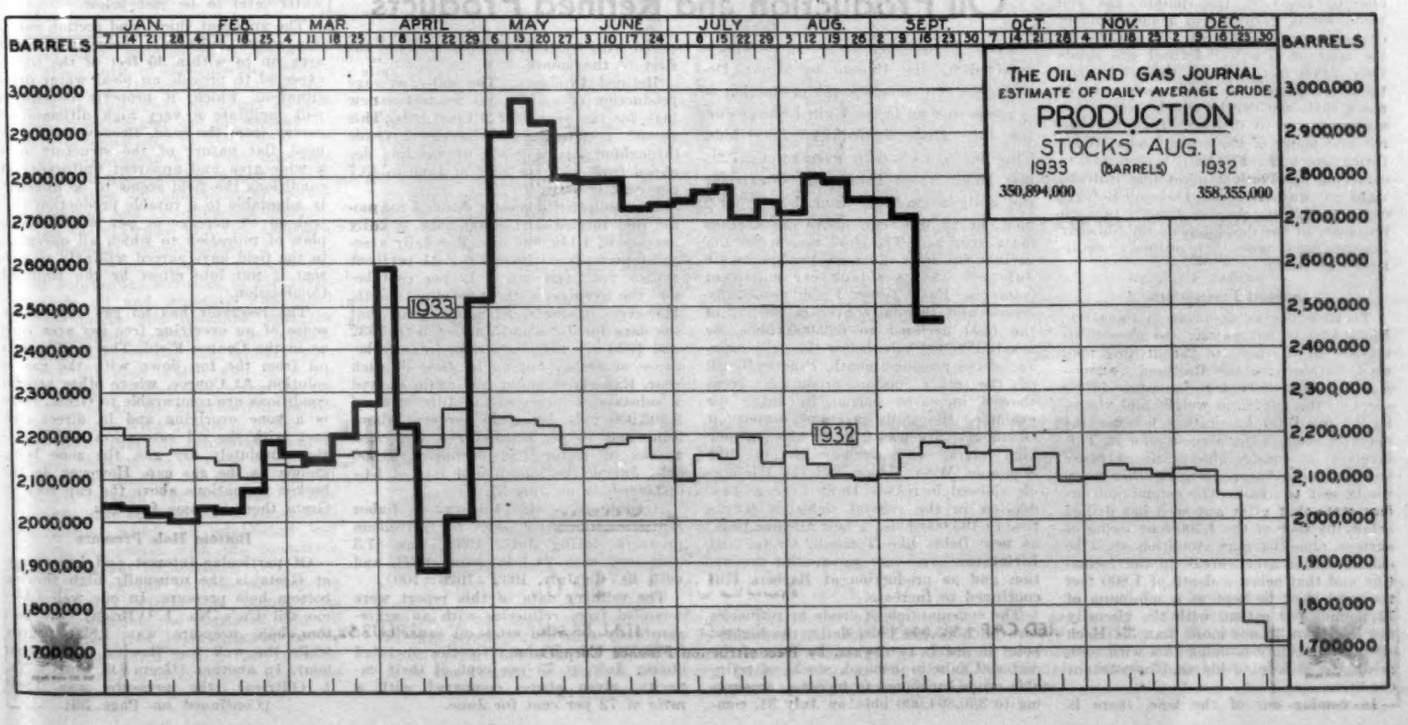
Conditions have improved rapidly but prices have not advanced unreasonably, in fact they still are below the five-year average, with most of that period depression years. Oil companies sustained heavy losses during this period of low prices. Not only must the business be placed on a living price basis but this price must also take care of additional costs incident to operations under the code.

Crude Oil Production in the United States

Estimated daily average production for the week ending September 16, and a comparison with previous week and one year ago, follows:

	Sept. 16	Sept. 9	Sept. 17, 1932
Oklahoma—			
Oklahoma City	222,725	173,155	72,120
Seminole-St. Louis	129,885	128,315	119,540
Remainder of State	212,030	212,390	195,855
Total Oklahoma	564,640	513,860	387,515
East Texas—			
Lathrop	197,870	267,991	149,593
Kilgore	143,820	194,787	117,505
Joiner	128,310	173,780	119,117
Total East Texas	470,000	636,558	386,215
West Texas	129,047	161,937	167,121
North Central Texas	75,967	75,138	72,365
Texas Panhandle	45,585	44,565	49,354
East Central Texas	45,428	57,694	56,319
Gulf Coast—Texas	173,685	219,847	130,638
Southwest Texas	46,755	51,515	59,762
Total State of Texas	986,467	1,247,254	927,774
Kansas	130,100	127,375	97,485
North Louisiana	25,845	25,985	29,940
Gulf Coast—Louisiana	47,939	48,267	33,747
Arkansas	30,975	31,020	33,690
Eastern Fields	124,000	128,000	112,000
Rocky Mountain area	82,420	80,840	74,976
California—			
Santa Fe Springs	49,500	53,500	58,000
Long Beach	70,250	75,500	70,750
Playa Del Rey	11,000	10,900	14,250
Elwood	13,900	13,400	13,900
Kettleman Hills	64,000	63,250	59,000
Remainder of State	281,350	296,450	262,100
Total California	490,000	513,000	478,000
Total United States	2,482,386	2,715,601	2,175,127

Decrease 233,215 Bbls. Daily.



Greta Is the Most Orderly Drilled Field in Texas; Operators Anxious for Fullest Co-operation

By NEIL WILLIAMS
Gulf Coast Bureau, The Oil and Gas Journal

HOUSTON, Tex., Sept. 18.—Greta, Refugio County, is one field in Texas in which all operators, without exceptions, want and attempt to follow stricter drilling practices than those required of them by orders of the State Railroad Commission. In most other fields, although there are some operators who exercise all the necessary diligence and co-operate with the regulatory bodies and their representatives, there invariably are certain ones who prefer to take chances, and in their desire to make time and save expense try to get by and evade restrictions if possible.

The attitude at Greta of co-operation with state authorities was brought out particularly at a proration hearing held in Houston September 15 when the operators complained to engineers of the Railroad Commission that safety measures and drilling regulations as drafted by the commission were not strict enough. Generally in such hearings certain groups of operators attempt to contest many of the provisions of proration orders on the grounds that they place undue burden or possibly prohibitive costs on the shoulders of the operators.

In no other field, so far as known, have greater precautions against the hazards of drilling been taken than at Greta. The need for these precautions was brought home forcibly to the operators early in the development of the field by two bad blowouts and craters from a shallow sand around 2,100 feet. Fresh in mind was the situation at Conroe which gave so much trouble when high pressure gas charged many of the shallow gas and water sands, resulting in a succession of craters over a wide area. In addition to the four or five well-defined gas sands from 2,000 feet down to the oil horizon there are numerous other sands even at much shallower depths which offer a constant menace in drilling. Like at Conroe and many of the other coastal fields formations are extremely susceptible to cratering and with a main line railroad right of way and the Houston-Refugio concrete highway passing directly through the heart of the development the blowout hazards have more than ordinary significance at Greta.

Special Precautions

There is not an operator in the Greta Field who is not paying the closest attention at all times to the drilling mud used, not because the Railroad Commission has laid down certain orders in respect to the minimum weight and viscosity of the fluid but rather because the operator realizes the necessity for it. This involves a considerable extra expense which some operators in most other fields would seek to avoid. The commission orders state that after any well has drilled below the shoe of the 1,300-foot string of surface pipe the mud condition shall be checked after every break in the formation and that below a depth of 1,800 feet the mud shall be kept at a minimum of 11 pounds per gallon, with the viscosity not less than 33 nor more than 55. Each operator not only is doing this with each break but is keeping his mud in constant condition.

In coming out of the hole, there is hardly a driller in the field who pulls more than one fourble at a time without checking the condition of the mud and without pumping in more mud to insure a full load of fluid on the bottom of the hole at all times. Under this method a driller always pulls a dry string of pipe. It was proposed by Railroad Commission engineers that four fourbles be pulled without checking the condition of the mud. To this the operators protested as being hazardous and requested that more stringent restrictions be imposed and that no driller be permitted to pull a wet string of pipe.

The precautions which Greta operators take to protect and safeguard their drilling wells are reflected in the cost of the wells, which range from $28,000 to $32,500. Considering the 4,400-foot depth to which the wells are drilled, the cost is comparatively high for the coast. The cost includes the completed well, except the salvable material on the leases. Some of the extra cost is made necessary by the three strings of pipe required on all wells within a half mile of a blowout well, these strings consisting of, first, a minimum of 325 feet of surface casing to shut off the shallower water sands; second, a minimum of 1,300 feet of casing as protection against the shallower gas sands, and, third, the flow string.

Only the best of material and equipment can be used in the drilling and completion of Greta wells, which adds to the expense. While second-hand equipment is not prevented, all casing and connections have to be thoroughly tested to withstand pressures of 2,000 pounds. Blowout preventers are a requisite. The use of secondary drilling rigs, derricks, pumps, etc., would create a great hazard and has been taboo since the start of development.

Of Major Importance

Almost without notice, the Greta Field has assumed a place of prominence and major importance in the Gulf Coast. Although opened only last May, on September 17, it had a total of 21 completed producers, one other in process of completion and several others on the sand. Considering the status of present operations there will be 30 completed producers by October 1 and 40 by October 15, representing an estimated potential daily production of between 50,000 and 55,000 bbls.

The present proven area covers approximately 2,000 acres, but it is estimated the productive area ultimately will cover 6,000 acres. Based on an average productive sand thickness of 35 feet with a saturation of 50 per cent on a 25 per cent porosity, there is a total of 77,000,000 bbls. of oil in place under the present productive area (1,000 bbls. per acre foot) and 210,000,000 bbls. in place under the 6,000 acres estimated as productive. The sand is highly permeable and with an ideal water drive set-up it is anticipated there will be a large recovery under orderly development, the total ultimate recovery now being estimated around 100,000,000 bbls.

Greta is by far the best of any of the series of fields which so far have been developed in the lower Coastal district. Of other fields, it mostly resembles Conroe in general characteristics, although it is not the same type field and not as large, as Conroe has more than 15,000 proven acres with an estimated ultimate recovery of more than 500,000,000 bbls. It is believed that similar production practices can be followed in both fields.

Producing Horizon

The producing horizon at Greta is topped at approximately 4,360 feet, or about 70 feet below the top of the Heterostegina, the middle zone of the Marine Oligocene. From that depth down to around 4,390 feet it consists of broken formations of sand and shale showing mostly gas. A hard sandstone cap 1½ to 2 feet in thickness separates the oil sand section. How thick the latter section is in the field proper is not known although outpost wells have drilled amounts varying from 174 to 265 feet. A test drilled by Atkins & O'Neil, 2 miles north of the field, went through 265 feet of sand section. Vidaurri Oil Co.'s No. 1 Welder, over a mile farther north, had 174 feet of the section, while a test by the United Production Co., south of the field, had 200 feet of sand section. Nesral Oil Co. drilled through the section in a test to the southwest but datum on the thickness is not available at this time. All these tests were low and the entire section in each carried water. It was reported there were no breaks although the sections in those tests were not cored.

No tests in the field have attempted to drill through the sand, all wells having been completed at an almost uniform depth within a few feet of 4,400 feet. All but the upper 35 feet of the sand is under water, the water level having been tentatively established by the outpost wells as being at minus 4,335 feet, based on an actual depth of 4,410 feet with a derrick floor elevation of 75 feet. Several tests, opened for short periods, have made water, indicating the water level to be just below.

The apparent thick sand section carrying water uniformly under the entire area up to within 35 feet of the top is expected to provide an ideal water drive situation, which, if properly controlled, will facilitate a very high ultimate recovery from the sand. Because of the almost flat nature of the structure over a wide area and apparent uniformity of conditions the field seems to be unusually adaptable to a ratable production control on an acreage or per well basis, a plan of proration to which all operators in the field have agreed willingly to consent if put into effect by the Railroad Commission.

The reservoir has no gas cap in the sense of an overlying free gas area such as in the Conroe Field. The sand carries oil from the top down with the gas in solution. At Conroe, where other general conditions are comparable to Greta, there is a zone overlying and in direct contact with the oil saturation which carries absolutely dry gas, the zone being known as the gas cap. However, in the broken formations above the cap rock at Greta there is some free gas.

Bottom Hole Pressure

Of particular interest and importance at Greta is the unusually high flowing bottom hole pressure. In one well (Alamo Oil Co.'s No. 1 O'Brien), the bottom hole pressure was 1,820 pounds while the well was flowing 48 bbls. an hour. In another (Greta Oil Corp.'s No. 1 O'Brien), the pressure was 1,960

(Continued on Page 36)

Bureau of Mines Report for July Crude Oil Production and Refined Products

Crude Petroleum: According to reports received by the Bureau of Mines, Department of Commerce, the production of crude petroleum in the United States during July, 1933, totaled 84,387,000 bbls. This represents a daily average of 2,722,000 bbls., which is 40,000 bbls. below the daily average of June but 583,000 bbls., or 27 per cent, above the average for a year ago. The chief reason for the decline in daily average production in July was that the tank car movement from the East Texas Field practically ceased and the daily average output of the field declined to 622,000 bbls., or nearly 200,000 bbls. below the daily average of the previous month. Practically all of the other major producing areas showed increased output in July; for example, the daily average output at Oklahoma City was 270,000 bbls., a new high mark, and settled districts like Seminole, West Texas, and the Panhandle showed increases. Daily average production in the coastal fields of Texas rose to 195,000 bbls., a new all-time peak, as new fields like Tomball, Greta, and Livingston came into substantial production and as production at Barbers Hill continued to increase.

The consumption of crude at refineries rose to 2,565,000 bbls. daily, the highest point in nearly two years. In spite of the material gain in demand, stocks of refinable crude continued to increase, amounting to 350,894,000 bbls. on July 31, compared with 348,197,000 bbls. on hand the first of the month.

Refined Products: The daily average production of motor fuel reached a new high for the year of 1,201,000 bbls. This record resulted from increased crude throughput as the yield of gasoline declined from 44.7 per cent in June to 43.7 per cent in July.

The indicated domestic demand for motor fuel totaled 34,458,000 bbls., a daily average of 1,112,000 bbls. The daily average represents an increase of 11 per cent over a year ago but is 12 per cent below the average of the preceding month. However, it should be noted again that the data for June and July of both 1932 and 1933 are not comparable, mainly because of pretax buying in June of each year. Exports of motor fuel again showed a substantial increase, the July total of 3,303,000 bbls. being 26 per cent above June and 40 per cent over a year ago. Stocks of motor fuel declined 518,000 bbls. during the month and totaled 54,063,000 bbls. on July 31.

According to the Bureau of Labor Statistics, the price index for petroleum products during July, 1933, was 41.3 compared with 34.4 in June, 1933, and with 49.7 in July, 1932 (1926=100).

The refinery data of this report were compiled from refineries with an aggregate daily recorded crude-oil capacity of 3,496,610 bbls. These refineries operated during July at 73 per cent of their capacity, given above, compared with a ratio of 72 per cent for June.

Price Fixing by Government Is Again Postponed; Meanwhile Prices Are Expected to Improve

By C. O. WILLSON

WASHINGTON, D. C., Sept. 19.—The oil industry will not have price control for crude oil and refinery products in the immediate future, according to indications here today and yesterday. While no official announcement to that effect was made the developments point to a postponement of action in regard to the new price program submitted the latter part of last week by the Planning and Co-ordination Committee.

A protest received yesterday from a Texas refiners association regarding the supposed provisions of the pricing plan which have not been made public, is said to have resulted in a statement from those high in the Interior Department that the Government had not decided upon any prices for crude oil and refined products and had no present intention of doing so.

This development was first indicated yesterday in the remarks of Secretary of Interior Ickes, oil administrator, before the Planning and Co-ordination Committee and the chairman and vice chairmen of its regional subcommittees.

Secretary Ickes called attention to the recent substantial increases in the prices for crude oil and wholesale and retail gasoline prices and indicated that the next immediate problem of the committee was to carry out the primary purpose of the code which was to widen employment and increase wages in the oil industry as its contribution to the success of the NRA program.

He asked that the committee compile a report showing the increase in employment made possible so far in the oil industry through the workings of the code. He also outlined the governmental organization which he established last week to co-operate with the committee in carrying out its work.

Finally, for the purpose of reducing disagreements within the industry as much as possible, he suggested that all factions be given representation in the organization which is to be set up within the industry to carry out the provisions of the code.

Following the meeting, members of the committee together with the chairmen and vice chairmen of the regional subcommittees met in groups to work out the divisional organization which under the direction of the Planning and Co-ordination Committee will have direct responsibility in carrying out the provisions of the code for the entire country.

Regional Plan

The suggested plan provides for six regions with a chairman for each region. Within each region there will be divisional chairmen for producing, refining, transportation and marketing. This organization is now being perfected here and the personnel chosen. These regional organizations will establish local committees and the organization will then be perfected and ready to operate as outlined in Secretary Ickes' statement of Monday.

This organization work is being expedited as quickly as possible and along with the permanent organization of the general committee should be completed within a day or two.

A. J. Byles, president of the American Petroleum Institute, who has been acting chairman of the Planning and Co-ordination Committee, has announced that he will not be a candidate for the position of permanent chairman. It is understood Wirt Franklin will be elected permanent chairman.

If, as indicated, the administration does not approve immediately the price fixing plan submitted by the Planning and Co-ordination Committee it will be keen disappointment to many members of the committee and others who are interested here in expectation that the plan would be made effective this week and around which the whole plan for working out the details of the oil industry's code would be centered.

It appeared possible that a permanent refusal to approve price fixing as a part of the industry's code might result in changes in the personnel of the general committee. There are those among the industry with strong representation on the committee who feel that it will be impossible to carry out the major provisions of the code unless backed with control of prices extending from crude oil at the well, through the wholesale prices for gasoline and the other principal refinery products and ending with the prices paid by the consumers. It is commonly reported here that the price control program submitted to the President incorporated all these features for the entire industry. This plan which involves a mass of detail was worked out on the cost recovery program which was made a part of the code in amendments announced last week.

Difficulties Over Code

In support of their position those favoring government control of prices are pointing out the difficulties that have already arisen in the application of the code. Reports received here show there is price cutting in retail gasoline distribution at scattered points. It is contended that if this is not stopped the major units who have raised their retail prices in line with the recent increases in crude oil and other costs will be faced with a demoralized retail market which will nullify the plans of the entire industry.

It is also known that many complaints have been received from retail dealers. Many thousands of these dealers signed the NRA code but at the same time they asked for protection in regard to the margins allowed them for marketing gasoline and other products through their stations. Over the past year the margins allowed these dealers have been greatly reduced at many points due to the necessity of reducing operating costs on the part of the oil companies which supply them. It is said that the oil-pricing plan recommended to the Government takes care of this situation by providing for a uniform marginal spread.

The remarks of Secretary Ickes Monday were interpreted to mean that he was adhering to his previously announced position of wishing to try out the effects of the Government's program of curtailing crude oil production to current demand in relation to prices with the implied hope that no price control would be necessary. His statement Monday indicates that he is satisfied with results so far and he

MEMBERS OF PETROLEUM ADMINISTRATIVE BOARD

WASHINGTON, D. C., Sept. 18.—Secretary Ickes has appointed a petroleum administrative board to assist him in governing the industry under the oil code.

The new agency, composed almost entirely of government officials, is expected to aid Mr. Ickes in an early decision on price-fixing policies.

Nathan R. Margold, solicitor of the Interior Department, is chairman. Other members are:

Charles Fahy, ranking assistant solicitor of the Interior Department, vice chairman.

Norman L. Meyers, assistant solicitor of the Interior Department, secretary.

J. Howard Marshall, assistant solicitor, Interior Department, and special assistant to the Attorney General.

J. Elmer Thomas, petroleum analyst of Fort Worth, Tex., technical advisor.

Edward B. Swanson, chief of the petroleum economics division, Bureau of Mines.

Dr. John W. Frey, petroleum specialist, Commerce Department.

—International News Photo.

Three of the legal members of the new petroleum administrative board set up by Administrator Ickes appear in this photograph. Left to right: J. Howard Marshall, Charles Fahy, (vice chairman of the board) and Norman L. Meyers, (secretary); M. L. Benedum, of Pittsburgh, government representative on the Committee of Fifteen is in the center; Donald R. Richberg, general counsel for the NRA, General Hugh S. Johnson, NRA administrator, and Secretary Harold L. Ickes

now feels that other features of the code should receive primary consideration.

Ickes Talks to Committee

"I am pleased to welcome you to Washington in connection with the important work of stabilising the oil business of this country to which work we expect you to contribute largely.

"Certainly it is a gigantic task which confronts us and one that will call for strong nerves, clear heads and sound hearts. Your best business judgment, highest technical skill, utter unselfishness and ardent patriotism will be needed in support of President Roosevelt's program. With proper comprehension and co-operation his plan must succeed.

—Keystone View Co.

NATHAN R. MARGOLD

Chairman, Petroleum Administrative Board

"A short time ago conditions in your industry were very bad, but since the passage of the National Industrial Recovery Act notable improvement has been shown. I find that advances in retail gasoline prices of 30 per cent, in wholesale gasoline prices of 100 per cent, and in crude oil prices up to 250 per cent have already taken place, although our control of production was inaugurated only 10 days ago. Your problem is to hold and consolidate this improvement so far as it is justified while paving the way for further improvement.

"I ask you to remember that our primary purpose is to put men back to work and to raise wages, thus enlarging the purchasing power of the industry. This beneficial result will then extend to other industries and again be reflected back to your own. I trust you will direct your earliest and most earnest attention to this labor and wage question, and to keep my staff advised of the progress made.

"Many units in the oil industry adopted the labor and wage provisions of the NRA under the President's re-employment agreement even before the oil code was signed, and reports on the improvement in employment and wages should be available by now. I will be most interested in having them brought to my attention at the earliest possible date.

Administrative Board

"I have established in the Interior Department the Petroleum Administrative Board, the personnel of which was recently announced in the press. This is now organized to handle all matters promptly. The routine will be for all communications from the industry or from the public to clear through the board's secretary, Mr. Meyers, by whom each question, technical, legal or administrative, will be referred immediately to the proper person for action.

"Many of these matters should go to your committee first for investigation and recommendation and I hope you will organize yourselves to receive and handle them. The Petroleum Administrative Board will acknowledge each inquiry, request or complaint by letter or telegram the day of its receipt, if possible, and issue final determinations at the earliest possible date. This procedure seems highly important if we are to secure the co-operation and support of the public, and I am sure your committee will aid us to carry out this procedure.

"For all matters to be taken up by the committee with the board I have selected as the point of contact our special technical adviser, Mr. Thomas, who is already known to most of you. This should also facilitate our work, save time and duplication of effort. On this latter point I regret that the pressure of details has prevented one member of the board from sitting constantly with the committee but so far we have been unable to arrange that. In the meantime, I suggest that the committee keep the board advised in a general way of the proposals which the committee has under consideration, even while the recommendations are being formulated, in order that our approval can be expedited.

Asks Representative Committees

"I have a further and important suggestion to make, one that I transmitted to the committee through the board a week ago. In naming the personnel of our subcommittees, regional and local, representation be given to all the various groups and factions within the industry so that the problems and views of all may be considered simultaneously in formulating your recommendations. During the process of adopting a code we became aware how many factions and schools of thought exist, and how widely variant are their ideas on the industry's problems and their proper solution. None should be denied a right to be heard and one of the best ways to assure that is to make your committees comprehensively representative. Thus we may reduce the flood of telegrams reaching us to the effect that this and that action is being taken without consideration of the welfare of particular groups.

J. ELMER THOMAS

"Gentlemen, we have a solemn duty to perform. Our task is to stabilize the oil industry upon a profitable basis. That is the keen desire of the administration and we will work with you constantly to that end.

"But we must remember that the income of the oil industry is the outgo of the consuming public, and so design our program by progressive stages, that too great a burden is not placed too suddenly upon the purchasing power of the public just at this time. In the end our program cannot succeed unless we have the support of the public."

California Price War

Secretary Ickes issued the following statement:

"Word has come to me that a gasoline price war has broken out in California and is extending along the Pacific Coast. There is also underselling in Brooklyn and in other sections of the country. I have asked that a study be made of the situation in these disturbed areas with a view to seeing what the oil administration can do toward remedying it. Pending a study of these facts, I am not prepared to express any opinion except to say that I hope that those oil interests involved in these price wars are not violating the petroleum code that only a few days ago they all subscribed to. Here is a situation where all of us must keep clear heads and refrain from rocking the boat. I hope that these various oil interests, realizing the menace price wars will be to the entire oil situation throughout the country, will themselves take prompt measures to keep themselves within not only the letter but the spirit of the code."

Administrator Announces Approval of Modifications of Petroleum Code

In order to clarify and complete the code of fair competition for the petroleum industry approved by me August 19, 1933, the following modifications of said code are hereby approved in accordance with my letter signed simultaneously with the approval of said code, and in accordance with the provisions of said code, the National Industrial Recovery Act (Public 67—73d Congress), and the application and recommendations of the Planning and Co-ordination Committee of the petroleum industry:

Making of Reports

To Article 1 add a new section as follows:

Sec. 4 (a). The President may impose such conditions (including requirements for the making of reports and the keeping of accounts) for the protection of consumers, competitors, employes and others, and in furtherance of the public interest, and may provide such exceptions from the provisions of this code as the President in his discretion deems necessary to effectuate the policy of the National Industrial Recovery Act; provided that all such matters shall first be considered and recommendations made in regard thereto by the Planning and Co-ordination Committee.

Production Pay

Article 2, Section 1, is amended to read as follows:

Section 1. In drilling, production, refinery and pipe line operations, the maximum hours for clerical employes shall not exceed 48 hours in any one week nor more than 80 hours in any two weeks and the rate of pay for each geographic division shall not be less than the minimum stated in Section 2. All other employes in these operations, except executives, supervisors and their immediate staffs, and pumpers on "stripper" wells and employes on isolated properties, shall work not more than 40 hours in any one week nor more than 72 hours in any two weeks nor more than 16 hours in any two days. Definition of "stripper wells" shall be made in various fields and areas by the regional committees, subject to the revision and approval of the Planning and Co-ordination Committee.

Article 2, Section 1, in the table of Minimum Rates Per Hour, is amended by inserting an asterisk (*) before Oklahoma in the West South Central division.

Article 2, Section 2, is amended to read as follows:

Marketing Pay

Sec. 2. In market operations all employes (other than those employed in filling or service stations, garages or other institutions which sell petroleum products as enumerated in Rule 2 of Article 5 of this code to the public), including clerical, but excluding executives, supervisors and their immediate staffs, and outside salesmen shall work not more than 40 hours per week.

Article 2, Section 2, in the table of Minimum Rates Per Hour, is amended by inserting an asterisk (*) before the following states:

In South Atlantic division: Virginia.

In East South Central division: Kentucky and Tennessee.

In West South Central division: Oklahoma.

Article 2, Section 3, is amended to read as follows:

Sec. 3. No filling or service station employe, nor any employe of any garage or other institution selling petroleum products, as enumerated in Rule 2 of Article 5 of this code, to the public shall work more than 48 hours per week. Nor shall any such employe receive less than $15 per week in any city of over 500,000 population or in the immediate trade area of such city; nor less than $14.50 per week in any city between 250,000 and 500,000 population, or in the immediate trade area of such city; nor less than $14 per week in any city of between 2,500 and 250,000 population, or in the immediate trade area of such city; and in towns of less than 2,500 population or in the immediate trade area of such towns not less than $12 per week, and provided further that no employe shall receive a smaller weekly wage for the shorter work week than was his weekly wage on July 20, 1933.

Article 2, Section 4, is stricken out and the following inserted in lieu thereof:

"There shall be an equitable adjustment of the differentials between the rates for skilled jobs and minimums established in this code for common labor as determined by the regional committees from time to time in each area subject to the revision and approval of the Planning and Co-ordination Committee," and subject to final determination of the President.

Production of Crude

Article 3, Section 3, is amended to read as follows:

Section 3. Required production of crude oil to balance consumer demand for petroleum products shall be estimated at intervals by a Federal agency designated by the President. In estimating such required production, due account shall be taken of probable withdrawals from storage and of anticipated imports. The required production shall be equitably allocated among the several states by the Federal agency. The estimates of required production and the allocations among the states shall be submitted to the President for approval, and, when approved by him, shall be deemed to be the net reasonable market demand, and may be so certified by the Federal agency. The allocations when approved by the President shall be recommended as the operating schedule for the producing states and for the industry and thereupon Section 4 of this article shall apply. In any states where oil is produced on account of back allowables, total current allowables shall be reduced accordingly.

Article 3, Section 4, is amended to read as follows:

Sec. 4. The subdivision into pool and/or lease and/or well quotas of the production allocated to each state is to be made within the state. Should quotas allocated in conformity with the provisions of this section and/or Section 3 of Article 3 of this code not be made within the state or if the production of petroleum within any state exceeds the quota allocated to said state, the President may regulate the shipment of pe-

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A. I. M. E. Stabilization Forum, Article No. 13: Present Trends in American Government

By HENRY M. BATES
Dean of University of Michigan Law School*

Must Study Major Movement

That student of the oil industry who wishes to know where we go from here must look beyond the customary indexes of the past to secure an answer. No longer does the oil industry plot its own course. It is now caught up into a major social trend much greater in extent than any single industry. Where that vast movement goes the oil industry goes, and he who would find the answer must study the major movement.

For that reason we have secured permission from Dean Henry M. Bates of the University of Michigan Law School to reproduce here an address he delivered before the California State Bar Association in September, 1932—one year ago. It is reproduced here because of the striking manner in which it forecast the incredible events of the past year and because of the course it projects into the future. The accuracy with which it suggested the events of the past year inspires confidence that the remainder of its analysis would be equally accurate. It inspires confidence in the ultimate wisdom of the governmental experiments now under way, for it plots a course in that general direction with an assurance that is convincing.

We might state, however, we do not know if this interpretation would accord with Dean Bates' approval. The address was called to our attention while in Washington during the code meeting. We wrote Dean Bates asking for copy and permission to use same. He gave that without additional comment. We have placed our own interpretation on it without further communication from him, and have so expressed it here.

Dean Bates honored the A.I.M.E. Petroleum Division some six months ago by consenting to become a member of its Stabilization Committee. His specialty in the legal field is constitutional law, with peculiar reference to due process, which is the legal hurdle that has caused embarrassment in oil industry stabilization. Some years ago he served as chairman of the American Bar Association's famous Committee of Nine appointed at the suggestion of the Federal Oil Board to study the oil industry's problems and methods for correcting them. He is, therefore, peculiarly fitted to speak with authority on legal phases of the oil problem as well as on the probable trend of government. He has been of invaluable service to this committee.

(Signed) EARL OLIVER, Chairman
Stabilization Committee,
A.I.M.E. Petroleum Division

The "World War" overturned many governments, left others tottering to an apparently certain downfall, and unsettled institutions and political and economic faiths throughout the world. Coming at the end of a period of unprecedentedly swift and fundamental changes in every phase of civilized life, and followed by a devastating and world-wide economic depression, the war and its consequences have shaken men's faith in much that for centuries has been accepted as unquestionably sound, fundamental and unshakable.

A century and a half have elapsed since 13 struggling colonies along the Atlantic seacoast embarked upon what contemporary observers regarded as an adventurous and experimental course in government. For more than a century prior to the adoption of the Articles of Confederation and of our present Constitution, the Colonists had been developing political understanding and acquiring experience in carrying on at least the rudimentary forms of local government.

The government set up under the Constitution has now endured longer than any other still extant, which is evidence enough of the great wisdom with which it was fashioned. Government under it worked admirably while our frontier was still advancing, while we still remained predominantly an agricultural nation, and while the natural resources of the country were not exhausted and the public domain was not yet appreciably distributed into private ownership; while, in short, there were, as yet, no great economic problems or controveries.

But when the advancing frontier was finally halted by the Pacific Ocean and our north and south boundary lines had become fixed for an apparently indefinite time, new problems arose. The exhaustion of the public domain alone produced a remarkable economic and psychological change in the nation. James T. Adams has pointed out in a recent brilliant sketch that, as each of our earlier panics or economic depressions prostrated the country, the poor, the discontented and the adventurous moved west. The successive waves of western settlers not only made a better living upon the fertile lands which they occupied, but, with their new wealth, they created an enlarged demand for manufactured goods, thus reviving industry in the older settlements and starting us on "new eras of prosperity." But this vent for discontent and this means of attaining new wealth is no longer open to us. As Prof. James Turner said some years ago:

"The passage of the arable public domain into private possession has raised the question of the distribution of wealth in new forms and has brought forth new answers. This is peculiarly an era when competitive individualism, in the midst of vast unappropriated opportunities, changed into the monopoly of fundamental industrial processes by huge aggregation of capital, as the free lands disappeared."

Under the earlier conditions there was elbow room for everyone, and the strenuous life could be lived without much danger of collision or conflict. Individual initiative without appreciable restraint or supervision by government was required for the rapid occupation and exploitation of the huge national domain. Individualism under a government in the main controlled by a policy of laissez-faire was desired and the Constitution made such a government possible. It was important, as always, that the nation's citizens be secure in the political and civil rights already referred to, and the Constitution guaranteed it. In short, only a believer in the immediate perfectibility of the human race and its institutions, or at least of Americans and their works, would have doubted that our constitutional scheme was well adapted to its function, perhaps more so than any other governmental plan in modern times.

The end of our Civil War marked the beginning of the extraordinary swift transformation of the nation from an agricultural to a one dominantly commercial, industrial and urban. The public domain was rapidly distributed; thinly settled areas became thickly populated. Modern discoveries and inventions developed thousands of new needs, occupations. Life, formerly simple, became intricate and complex. Mammoth commercial and industrial organizations sprang into being and acquired irresistible power over individuals and over much of the essential wealth of the nation. Paths crossed each other oftener, the orbits of business and industry intersected more frequently. Collisions and conflicts became far more numerous. No man could exercise his personal liberty, or use his own property, with the old unregulated freedom without danger of harm to others or to the general welfare. In short, the old play for extreme individualism was gone, and whether we like it or not it has gone forever. As a shibboleth it is still proclaimed, but some of those who have most vigorously and most conscientiously asserted it as a policy, once they were placed in responsible positions have been forced to resort again and again to increased and more expanded governmental action.

The Constitution had served well under the old conditions. It had permitted a laissez-faire policy by government. Does it forbid, directly or indirectly, the adoption of any other policy? In the new and radically different life which we are now living are we constitutionally restricted to the precise policy, in this respect, which characterized our earlier history?

We have, in fact, greatly expanded and energized governmental action in Federal, state and local government. But the welkin now rings with loud but confused cries for the restriction of government to far narrower fields, and there are those who profess to believe that much of the recent expansion of our Federal Government's activity is in violation of the Constitution. Unfortunately for their view, the course of history, a long course of administration, the decisions of the courts, and sound constitutional interpretation are against them. As Mr. Justice Holmes said of the Fourteenth Amendment, that it was not adopted to perpetuate Mr. Herbert Spencer's Social Statics, so may it be said of the entire Constitution.

Government, like every other human undertaking, is always in a transitional state, is always changing; but the tremendous effects of the advances in the natural and social sciences and of the application of the principles thus developed to the actual affairs of life, plus the percussion of the great World War, with its convulsive ramifications into every aspect of life and thought, have brought about sweeping changes in the ways of looking at life and of living it. Changes in the numbers, quality and distribution of population, in industry and commerce, are revolutionary, to an extent only faintly perceived by most of us. At least though we may vaguely realize that some of the fundamental conditions which controlled the fashioning of our legal order have totally disappeared, while others have radically changed, as a nation, until recently, we have not recognized how materially our constitutional scheme has already been altered and how inevitable it is that further and perhaps great adjustments must be made in the near future.

But in 1929, upon a world in a state of flux, which bewildered all observers, there came like a black storm-cloud the most widespread and the most destructive of all modern economic disasters. Unquestionably, American self-confidence had been overestimated by our brief but extraordinary history and our achievement of hitherto unheard of wealth. And when that vast wealth appeared suddenly to be multiplied by the specious financial magic of the years 1925-29 we lost our bearings, proclaimed a new era and the annulment of principles which for centuries had been accepted as indubitable. But the "new era," with its pyramidal and limitless prosperity, turned out to be a mirage. With appalling suddenness the false vision was dissolved by the explosion in Wall Street in October of 1929.

The atmosphere of commercial and industrial America is still murky with the smoke of that catastrophe and the ground still strewn with the debris. But the debacle was far from an unmitigated calamity. It checked a course of economic folly and madness. In its violent and harsh way

*Morrison Foundation Address delivered at fifth annual meeting of State Bar of California, Coronado, September 29, 1932.

it canceled some unjust enrichments, and for our generation it shattered the delusion that happiness or even material prosperity can be achieved or assured by any species of financial sleight of hand. Of greatest promise for the future, in the period of economic paralysis following the disaster, thoughtful Americans, and even the man on the street began to scrutinize American political, social and economic institutions with an interest and a degree of searching thoroughness unequaled probably since the days of our Constitution making and adoption. The tragic incidence of the economic depression, its destructive effects upon the agricultural, mercantile and working classes, were so appalling that many were convinced of the imperative need of some better and more comprehensive scheme of public control of functions vitally affecting the public welfare. And so, perhaps, we have come to realize at last that the government we established under our Constitution is not automatic, and that if we leave it to the tender mercies of inferior politicians, as too often we have done, neither our politics nor our economics will be managed with expertness or a dominant purpose to subserve the public good. I yoke economics with politics, because, though there is recurring demand for the divorcement of business from government, the reciprocal relationship between government and the entire legal order, on the one side, with industry and all economic interests on the other, is so obvious and so inherently necessary that only demagogic politicians and intellectual ostriches would deny it.

Discontent With Government

Discontent with government is chronic. Unfortunately it is usually only a carping discontent. At present, discontent is acute in the greater part of the civilized world, and though it finds expression in widely variant ways in different countries, the causes are everywhere very much the same. In America the fringe of society, which is chronically revolutionary, is a wider fringe just now than it has been at any earlier time in our governmental existence. But it is vocal, not active, it speaks in vague and confused terms and as yet has no effective leadership. Nevertheless, strident voices are heard throughout the land, sounding almost every conceivable note of criticism and complaint. But the latest note, and one most frequently sounded, takes the form of a charge of too much government, too much law, and of the alleged wrongful entry of government into business.

The taxes which government must exact and the commands, prohibitions and restraints which it imposes are necessarily burdensome and productive of irritation. A perfect human race in a perfect world could dispense with government altogether, and that would be delightful. But there is little evidence that human beings are likely soon to attain such perfect development as to enable them to live together without some measure of organization and official control. Passions of various kinds, greed, ignorance and stupidity, make some degree of social control indispensable. But how much government is necessary is an age-old question, about which men have differed radically and bitterly. However, it seems not unreasonable to assume that the extent to which government should be imposed in a particular nation will depend much upon the complexity of the life and the character and temperament of its people. We can all agree that that government is the best which attains a reasonable degree of orderly and prosperous life with the least interference. But the task of achieving such a government is made infinitely difficult by reason of the fact that there is nothing like common agreement as to what is reasonable to expect in the way of order and prosperity, nor what degree of governmental control would best serve the purpose indicated.

Admittedly current agitation, both destructive and constructive, lacks unity and specific direction, but it is widespread and more or less prevalent among all classes, the rich and the poor, the intelligent and thoughtful, the ignorant and the thoughtless. Undoubtedly the clamor will die down, should there be an early return of prosperity, but a persistent residuum will remain, and it will find expression sooner or later in material alteration of our institutions; whether fundamental or superficial, by evolutionary or revolutionary methods, no man can foretell. It will be said that political and other institutions are always changing. Of course they are. Every entity, whether natural or man-made, is constantly in a state of transition. But during the last half century or so the modifications in our political institutions and in our general scheme of social control have not kept pace with the revolutionary changes in industrial and commercial life nor with the shifts in the thinking of modern society.

Before the outbreak of the Great War the features of our national life which were the molding factors in our political and legal organization had been so radically changed that serious maladjustment was the inevitable result. The war, with its shattering effects in Europe, produced repercussions in America which intensified the maladjustments here, exposed them to the vision of even the wayfaring man, and made a re-examination of our legal order imperative and, indeed, inevitable. The process is, in fact, always going on. For the pressure of the momentous changes in the national life have forced our political leaders to realize, sometimes against their professed theories, that the legal machinery devised for the conditions of the stage-coach era could not be applied to the continuous but changing stream of life without adjustments and alterations from time to time.

It should be apparent to everyone that the extraordinarily swift, fundamental changes in our national life of the last three or four decades require something like corresponding changes in our scheme of social control. But there is the widest diversity of opinion as to what direction the changes should take. On the political left there are not a few who hope for revolution of one kind or another. While at present the danger of violent revolution seems very remote, those of us who depreciate such a possibility should not be lulled into a false sense of security by the fact that thus far there have been no considerable uprisings or strikes of violence during all the misery and discontent of the present unprecedentedly severe economic depression. The savings from the phenomenal prosperity of the twenties and organized public and private relief on a scale never before approximated in history, and the lack of vigorous and magnetic leadership among the discontented are to be thanked that we have not had more serious outbreaks. But the savings of labor are already well-nigh exhausted, and relief projects commensurate with those of the last two years cannot be long continued.

Menace of Revolution

Two political discussion periodicals which 20 years ago were characterized as "liberal with radical tendencies" have moved far to the left and, scornful even of downright socialism as weakly inadequate, are preaching the necessity of revolution, with "a little bloodshed, if necessary." And these weeklies have their following. Finally, in appraising the menace of revolution it would be dangerous folly to close our minds to the profound impression upon the imagination of millions of human being made by the extraordinary experiment in government in Soviet Russia. One may feel, as most middle-aged and elderly Americans unquestionably do, that even if the Russian Soviets should completely achieve their projected program, they will have created a society and a manner of living which would be utterly intolerable. But even so, it must be borne in mind that to the sufferers from the defects of government and industrial organization in our country and to many of our own youth the Russian picture does not seem so impossible, while millions of Russians regard it, even in its present incomplete and onerous stage, with passionate devotion. The Russian experiment is an unsettling factor in every country on the globe. Finally, we are not unacquainted with the gentle art of revolution ourselves.

From the extreme right, politically speaking, comes an insistent demand, not for inaction, not for "standing pat" as and where we are, but for a so-called "return to the Constitution," to a policy of "laissez-faire," the political philosophy of John Stuart Mill and the economic theories of Adam Smith. These are a philosophy and a set of theories which have played an influential and honorable part in the modern history, but which as integral systems are gone forever with the conditions which produced them, and to which alone they were completely applicable.

Advocates of this retrogressive policy complain that government engages in too much business and interferes with private business needlessly and harmfully. Especially do they decry fact-finding commissions and the development of administrative law, officers and tribunals in this country. It must be admitted that there is a measure of truth in their strictures. A metropolitan journal a few weeks ago printed a list of 126 kinds of business in which, so it was alleged, the Federal Government engages. The listing seemed in part somewhat fanciful, but one may hazard the opinion that some of these businesses, at least, government had better keep out of. A brilliant lawyer and eloquest orator has recently published a book with the engaging title, "Our Wonderland of Bureaucracy." The author himself would scarcely contend that his book is an objective and impartial study of the Federal Government, and a reader may venture the opinion that the author, James M. Beck, surveyed his subject with a humor as whimsical and at times as distorting as that of the Alice who made Wonderland a synonym for topsy-turveydom. Nevertheless, Mr. Beck has pointed a caustic finger at some ridiculously fatuous performances by Federal bureaus.

The extensive regulation and the less frequent control of privately owned business and other occupations through the media of administrative officers and tribunals constitutes another grievance against which the gentlemen of the right inveigh bitterly. And here also, with at least a modicum of justification, for no doubt there are numerous instances of unnecessary blundering and harmful administrative activities. But most of the mistakes and defects complained of are not inherent in the nature of administrative law. When we have acquired a little more experience with it these imperfections can and should be corrected if a large proportion of able and intelligent Americans can be persuaded to give adequate attention to the job of self-government, won for them by their arcestors.

Spirals, Not Circles

The greatest objection to taking the direction advocated by the extreme conservatives is that no road leads the way and none can be constructed. If history teaches anything, it is that there is and can be no return to conditions and modes of life that have sunk back into the past. The cycles of history are not circles, they are spirals. A return to something similar to the life of the past is found always to be perhaps in the same quadrant of the compass, but upon either a higher or a lower level. A return to laissez-faire and the individualistic life of a century ago, or even to an approximation of it, is utterly out of the question. Life today is too complex. If we could restore the unregulated freedom of the early nineteenth century, a period of friction, conflict and confusion would be followed by an economic order dominated by a few mammoth organizations developed during and surviving intolerable cut-throat competition. The American people would then be forced to choose between three possible courses: (1) An acceptance of economic serfdom, with all of its debilitating and corrosive effects upon individual character, personality and life; (2) the seizure by government of all property and business, followed by governmental ownership, control and operation; or (3) seizure of all economic elements by the people, by revolutionary methods. In other words, the roads to the extreme left and to the extreme right, paradoxical as it may sound, would ultimately lead to much the same end—a thoroughgoing revolution, peaceful or violent, and a communistic society, with the destruction of modes of life and thought and of other values without which most of us would think life not worth living.

There are insuperable objections to the alternative courses indicated in the foregoing. Neither is in harmony with American temperament, traditions or methods. Revolution may sometimes mark an advance, but it is always at a terrible price in human suffering. And while it is true that our own national life began with what is called the American Revolution, that historical event was not a struggle to set up a different order of society: rather it was a revolt against an administration charged with violating historical rights and liberties, to preserve which the colonists waged their war ending in independence. Nor is it like Americans to turn back the hands of the clock, whether of politics or business, as the ultraconservatives propose to do. Progressive development in a generally forward direction has marked the course of every current in our national life. Moreover, the unwisdom, in fact, the impossibility, of a right-about-face and a return to a political fashion which has been sloughed off by changed underly-

ing conditions must be abundantly evident to every student of political thought and history.

There remains a course which, if not peculiarly American, is that which Americans have pursued for 147 years. Moreover, it is a course demonstrably and definitely made possible by our Constitution. This program calls for the careful, yet bold and planned, progressive development of our legal order along American constitutional lines, for continuing to fill in the framework of government, admittedly stated only in bare outline in the Constitution, and for freely, though only after careful study, adding to or withdrawing from, modifying and developing our machinery for social control, as the constantly changing life-stream of the nation may require. This is not a mere middle course, nor a compromise in any sense, between the certainly revolutionary road to the left and the unintended but almost certainly revolutionary end of the road to the conservative right. It is an independent, distinctive and engineered program. It calls for more ingenuity in adapting means to ends, more resourcefulness in finding new solutions, more courage in experimentation than we have hitherto shown. It requires less arbitrary and cramped definitions and applications of some of our general standards such as "due process of law" and "the equal protection of the laws," greater freedom and more constructive imagination in dealing with political concepts and legal materials than our legislatures have generally exercised. It would require that our courts be more careful in reviewing legislation, to stay within the proper limits of the judicial function as defined by Chief Justice Marshall and as restated and applied to modern conditions with brilliant mastery and profound statesmanship by Mr. Justice Holmes.

How Progress Must Come

Progress, in my judgment, must come chiefly through carefully thought-out and scientifically constructed legislation and through the wide development and scientific improvement of administrative law. We may curse the "multiplication of laws" all we like. It has been done at least since Coke's time, who complained bitterly that English law already filled more than 30 volumes. But it is absolutely certain that in this period of unprecedentedly swift and comprehensive changes in every activity of life we shall and must have more and better, not fewer laws.

We have now touched, however, inadequately, upon three complaints against the present development of our political and legal order. First is the claim that government is itself embarking too much in business. Criticism of this tendency is based not so much upon political theory as upon the injury which, it is alleged, it is doing business by competing with private individuals. The charge is largely economic and political and is not distinctly legal. It may, therefore, be dismissed here with a word. There has been some tendency in recent years for the Federal Government, particularly, to manufacture or control the production of some commodities used by the Government. If economies are thus effected for the whole people, it is not likely that the complaints of a few persons will make much impression upon the country. Broader considerations being taken into account, perhaps it is not unfair to say that with the present methods of politicians and with the personnel of government being what it now is, it is impossible to believe that the country would profit from government participation in a more comprehensive way in business or industry. With present conditions, then, we are justified in opposing the extension of the Government's participation in what is commonly called "business." With a more intelligent electorate and with better trained and more conscientious body of public servants, the problem may become one worth considering in the future.

A second complaint leveled at contemporary developments is the familiar one that our body of law, already too voluminous, is being far too rapidly augmented by the enactment by legislatures of high and low degree. Even if we confine this complaint to the vast increase in statutory law, it must be admitted that the outcry against the rather turgid mass of legislative enactments is an entirely natural one and by no means without some justification. There are too many laws, such as they are, and if our legislative output could be limited to well-considered and scientifically formed and socially justifiable laws the volume would undoubtedly be materially diminished.

But there is no reason to expect any rapid improvement in our legislative output. While there are many disinterested, able and well trained men in legislative halls, it would be hypocrisy to say that the majority of legislators in general represent the highest intelligence or the most sensitive conscience of the people or that they employ scientific methods in developing their legislative proposals. It is inevitable in a democracy organized at all like ours that the stream of new law should increase rather than decrease. Moreover, the complexity of modern life and the newer developments in almost every occupation must necessarily result in more and more laws. A transitional period in the life of society as a whole which is not accompanied by something like a corresponding adjustment of the scheme of legal control would necessarily lead to law evasion and violation and ultimately to something like complete demoralization. We must expect and welcome legislative experimentation, asking only that it be conducted with some degree of wisdom. However much we may inveigh against it, we shall have more and more law until some legislatively static era in the life of the nation has come upon us. During such a period the trial and error method in law making might be relatively completed. It would then be possible to expect the elimination of bad laws and the shaking down and consolidation of the sound residuum into a body of principles much smaller than the present corpus juris.

The third criticism of contemporary governmental trends is leveled at the extremely rapid development of administrative law and administrative tribunals, especially during the past three or four decades. A somewhat more careful examination of this problem seems appropriate on this occasion, for the constructive or engineering aspect of the problem lies, or may be made to lie, almost completely in the hands of lawyers, but here again there are reasons for believing that the scope of administrative law in this country will be greatly extended and that the present type of criticism of this tendency will have little or no effect. To begin with, as has already been said, it is idle to hope that we can confine governmental bodies to this age to functions which are either strictly legislative, strictly executive, or strictly judicial, as an absolute theory. The complete differentiation of the powers of government was never sound. As a matter of administration it was never wholly and sincerely undertaken. There are many legal situations which require the application of governmental acts which partake of the nature of at least two of these classically defined governmental powers. We take care, and we shall continue to take care, of such situations by the development of administrative law.

Administrative Law

Administrative law has long been a very important part of the jurisprudence of France, Germany and other European countries. Until within very recent years it has been commonly said that we had no administrative law, in either England or the United States, and Englishmen and Americans have boasted that every man, whether in high or low station, or in or out of public office, was amenable to the common law and to that alone. The assertion was measurably true through all the early period of our history, but he must be blind indeed who supposes that it is true today. To be sure, we have nothing corresponding closely to the French droit administratif, and it may be doubted whether such a system, under anything like present conditions, could or should find establishment in either of the great English speaking nations. But in all the English-speaking countries a vast number of occupations and functions are regulated in greater or less degree and many conflicting claims of right are adjudicated without participation by the common law courts or the direct application of specific common law rules.

The Anglo-American common law system was a well-adapted and quite adequate scheme of social control in England and in America up to and through the early stages of the industrialization of both nations. Executive action, parliamentary legislation, and the adjudication by courts of conflicting claims of right asserted by private parties fitted well into the traditions, customs and political theory of American colonists and their successors until late in the nineteenth century. Moreover, the constitutional distribution of the powers of government, both in the national government and in the several states, has greatly retarded and cramped in America the development of administrative law. Indeed, administrative law was regarded by the average American, until recently (and is still regarded by many of us), as a dangerous exotic, or at best as a kind of domesticated and annoying political maverick.

It is familiar learning today that the theory of a completely tripartite distribution of the powers of government, and the setting up of airtight compartments between them, grew out of the idealistic and abstract theorizing of French political philosophy of the eighteenth century, and a very serious misinterpretation by Montesquieu and other Frenchmen of the Constitution and functioning of the British government, and particularly of its allocation of governmental powers. There is not now and never has been in England anything like the trinitarian separation and distribution of the powers of government which Montesquieu supposed. But his famous writings and those of Rousseau and other French philosophers had profound influence with the political leaders of our revolutionary and early constitutional periods. And so it was that our Constitution assumed in part the separability of the three great classes of political power, and some of the early state constitutions carried this assumption to great lengths in order, as the Massachusetts Constitution stated, "that this may be a government of law and not of men."

Separation of Powers

Our courts have labored assiduously and with great dialectical skill to maintain the theory of a complete separation of powers in this country. But it has never been possible to establish a complete distributive scheme of governmental powers in action. The orthodox definitions of legislative, executive and judicial action are but very broad generalizations, impossible of precise application to most of the situation arising in the administration of our legal order. There are, of course, official acts which, with confidence, we can designate as either legislative, executive or judicial; but there are very many more factual situations, requiring official solution by single officers or tribunals and by processes which, in essence, partake of the nature of two or more of the three great classes of governmental powers. And this has always been the case.

Aristotle states the philosophical basis for administrative action in the following language:

"Law is in all cases universal but in some cases it is not possible to speak universally with correctness. . . . This is the reason why not all things are according to law, because on some subjects it is impossible to make a law, and there must be a special determination from case to case; for the rule of what is indeterminate must itself be indeterminate also."

The complexities of modern American life have intensified the need and multiplied the occasions for the application of the kind of determination Aristotle described. And the most striking and important change made in our scheme for social control since the adoption of the Constitution is the very great expansion of administrative law and the multiplication of administrative officers and tribunals, despite the unfavorable conditions referred to.

While the reasons for the resort to administrative law are perhaps familiar, it may be well to summarize the most important of these in order to appraise the advantages of proceeding in accordance with this new-old method of determining many classes of controversies which arise in the life of today.

The most fundamental of these reasons is the growing need and the increased perception of that need of having the interest of the public in these controversies presented untrammeled by the limitations of common law procedure. This has come about in part through the greatly expanded activities, particularly of state and local governments, in such matters as education, sanitation, industrial accidents and social welfare measures generally. The simplest illustration, perhaps, is that in regard to employer's liability and workmen's compensation. Under the old common law method of disposing of controversies arising out of such accidents, the public interest was almost wholly disregarded, because there was no adequate way of presenting it to the court. Controversies between private individuals and carriers and other public utilities present a clearer, if somewhat more complex, illustration of the same matter. It had been abundantly proved by 1887, when the Interstate Commerce Commission was organized, that the ad-

mittedly necessary regulation of carriers and utilities could not be left to general legislation and to the more or less fortuitous legal actions brought by the private parties directly interested.

The most interesting English writer on the subject has put it thus:

"We must now regard the public as very definitely a party to certain kinds of proceedings which are decided judicially. It was, indeed, the failure of the judicature to endow the general public with an enforceable interest in matters where a regard for the social good is of the first moment that led to the development of administrative tribunals."

Protecting the Public

Courts had done all that could be done to conserve the public interest by injecting what they deemed to be public policy in some classes of cases; but lack of agreement among courts as to what public policy required and the very narrow limits imposed by both the substantive and the procedural common law rules made this method of protecting the public interest wholly inadequate.

Akin to this important factor in the development of administrative laws was the felt necessity for finding a more elastic and adaptable mode of determining disputes. Common law standards and policies and even common law rules are too broadly stated and yet too rigid to afford a precise or even, in many cases, a fair adjudication of controversies of the kind indicated. The method of administrative law is, of course, for the tribunal, acting under general principles established by the legislature, to examine each case upon its particular facts and to make a determination within the limitation of the general principles but adjusted to the perhaps novel situation presented. This, of course, in detail and not those involving broad principles of which I, at least, hope our courts will always be the final arbiters.

The third important advantage of proceeding through administrative law and tribunals is to be found in the manner in which courts are organized. The judge who presides in the court of general jurisdiction is required to range pretty much over the whole field of human activities. But the performance of his duties does not tend to develop in him expert knowledge in a particular field. The rules of pleading and evidence prevent his availing himself of much of the soundest and most pertinent information regarding the subject matter of the controversy.

The administrative tribunal, on the other hand, being confined within relatively narrow jurisdiction and authorized to employ expert and fact-finding agencies, tends to develop expert ability in the field committed to its care.

Finally, it has been demonstrated that administrative tribunals can perform their duties more cheaply and more expeditiously than could a court undertaking the same task, even when the matter in question is within the range of judicial functions.

The chief objections leveled at the further expansion of administrative law are the dangers which are associated with bureaucracy. It is feared that administrative tribunals would tend to become arbitrary. Akin to this objection is the danger of lack of uniformity of rule and principle as applied by such tribunals.

There would be much force in these objections so frequently voiced at the present time if we had developed a system like the French droit administratif. French administrative action, however well adapted to French life, would produce frequent and perhaps generally unsatisfactory results in this country. There is no need, however, of moving in that direction. The administrative tribunal in this country may be kept within limits by the popular legislature and by judicial review of crucial questions of law and of certain classes of facts.

Administrative law has made rapid strides in England during the last few years and criticism of the results is not lacking in that country. The English practice, however, includes some defects which are not present in our scheme. In the first place, many administrative decisions are made, not by special tribunals organized for the purpose, but by under secretaries and even by mere employes in some of the great departments of state. Frequently the decision is made anonymously. The parties in interest have no right to demand an oral hearing, nor is there sufficient publicity at such hearings, nor by way of official reports of the English proceedings. Moreover, the determinations in England are frequently made by officials or employes who have had no adequate legal training.

In the United States, however, administrative proceedings have tended to become assimilated to some extent to judicial procedure. Probably a majority of our administrative officials have had legal training, and this assures some degree of conformity to the essentials of the judicial attitude and the application of what may be called the "judicial mind" to all determinations in the nature of adjudication, and this is highly important. Experts in various fields who have had no legal training may be employed in fact finding and in various capacities. Further experience in the actual operation of administrative tribunals will undoubtedly suggest improvements and safeguards which will make their functions as safe and as satisfactory as any human institution dealing with controverted matters of a complex nature can be expected to be.

At the bottom of all criticism of social control of this nature one finds that the real basis of complaint is the fallibility of the personnel in administrative tribunals. It is true that too often there is lack of ability, of adequate training, and in some instances even of common honesty. Cheap politicians are too often appointed to these positions, but this is a defect not inherent in the nature of administrative functioning, but one which can and should be corrected.

In brief, I venture to say that of the three failures of our government to function satisfactorily, as alleged in contemporary discussion, the following conclusions cannot be successfully controverted:

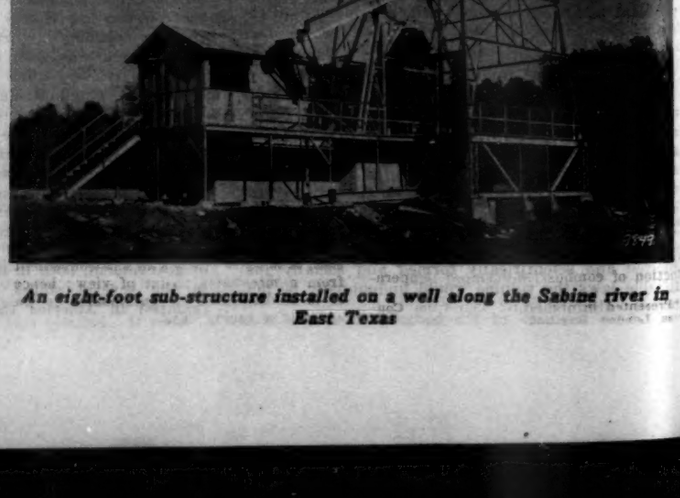
First, governmental operation of business or industry which can be properly confided to private individuals can be halted if it is desired so to do. It has not gone far in our country, and is confined chiefly to the work of public utilities and to the manufacturing of articles needed in the performance of strictly governmental work.

Present Trends

But as to the continued increase in the volume of our law, both legislative and judicial, and as to the further expansion of administrative law and action, there can be no reversal of the present trends as long as the conditions of life remain substantially as they are today. In truth, the conditions which have led to the present development in these directions are being intensified and strengthened, and it seems reasonably certain that we shall have more laws and more administration. If this be a fair diagnosis of the situation, business men and their lawyers had better cease barking at the rising tide and devote themselves to confining these streams of our national life, so far as possible, within proper limits. They should insist upon scientific study of the problems involved and they must give an adequate amount of attention to the self-government achieved by our ancestors. Public life in America, with splendid and notable exceptions, is on too low a level. If we concentrate our attention upon money making and other private affairs, and relegate the operation of government to others, we cannot reasonably complain if small men, if dishonest and inadequate men, seize the reins of government. Our profession won glory and prestige by its public-spirited attitude during the early years of our national existence. The opportunity presented to them to be of service and to achieve an honorable place in the history of the country was no greater, no more alluring then than that which now exists.

Unless the omens of the time have been completely misread, the present economic depression is not merely another depression, as has been so often said, but indicates the approach of an era radically different from that through which present generations have lived. The tasks of conquering a new continent, exploiting its resources and of developing a more than adequate mechanism for production have been accomplished. There remain the equally and perhaps even more important problems of establishing a sound and just scheme of distribution which will make impossible the repetition of the debacle of the last few years and of readjusting much of our scheme of social control. The opportunity calls for men and women of ability, character and courage. The challenge is to high and disinterested service—the stake is nothing less than the preservation of democracy.

General view of north portion of Oklahoma City Field with embankment around storage tank



An eight-foot sub-structure installed on a well along the Sabine river in East Texas

Effect of Automobile Engine Design on Octane Number Ratings of Motor Fuels Used

By WILLIAM H. HUBNER and GEORGE B. MURPHY
Universal Oil Products Co.*

During the past few years a large amount of work has been carried out in the United States to correlate laboratory-determined antiknock values of gasolines with performance in automobiles on the road.

Notable among these investigations was the work of the detonation subcommittee, both as a body at Uniontown Mountain in Pennsylvania in August, 1932, and as individual laboratories and groups of laboratories in other parts of the country during the months preceding.[1]

The detonation subcommittee was selected several years ago for the purpose of developing a standard test engine and a standard method for rating fuels according to their antiknock values. It is a representative body composed of members of the American Petroleum Institute, the Society of Automotive Engineers, the National Automobile Chamber of Commerce and the U. S. Bureau of Standards.

The work of this subcommittee has resulted in the development of the C.F.R. variable compression-ratio test engine, the octane number scale for evaluating fuels, and the C.F.R. Research and Motor Methods for antiknock determination. Effective April 1, 1933, the Motor Method (900 r.p.m., 212° F. jacket temperature and 300° F. mixture temperature) supplanted the Research Method (600 r.p.m., 212° F. jacket temperature, and approximately 100° F. mixture temperature) and became the tentative A.S.T.M. standard. In general, fuels rated by the Motor Method show lower octane numbers than by the Research Method.

Results of Test

The Motor Method is based specifically on the arithmetical average of the car ratings obtained during the Uniontown tests. However, no one-cylinder laboratory test method will apply satisfactorily to all cars and to all motor fuels now in general use. This is evidenced by the following four-point analysis of all the data reported in the literature during the last few years by various investigators:

1. Some cars rated fuels higher than the Research Method; others lower than the Motor Method. Some cars rated fuels midway between the two methods; others equal to one or the other method.

2. The worst car (the car that showed the lowest road rating for a given fuel) rated one fuel 20 octane numbers lower than the best car (the car that showed the highest rating). The worst car with one fuel was not the worst car with another.

3. Two fuels equal in the automobile engine under one set of operating conditions were not in all cases equal under other sets of conditions.

4. Some cars rated fuels differently at different speeds. Some knocked with greater intensity at the higher speeds than at the lower, and vice versa. In general, the cars which knocked hardest at the higher speeds depreciated fuels most, i.e., showed the lowest road ratings.

On the other hand, it is highly desirable to have a single test method which will correlate closely with all cars and fuels. Obviously, this can be accomplished only if car manufacturers and engine-builders effect those changes in engine design which will utilize the inherent antiknock qualities of all fuels.

The difference in road ratings between cars for the same fuel is primarily a function of combustion-chamber temperature. Detonation bears a direct relationship to the temperature of the charge immediately before ignition and to the temperature of the last portion burned. The higher the temperature in either case, the greater the tendency to detonate and the greater the depreciation. It is desirable, therefore, to reduce both the temperature of the charge before ignition and the temperature of the last portion burned to the lowest possible degree.

Combustion-chamber temperature is affected principally by four factors of engine design, namely: combustion-chamber design, cooling efficiency, volumetric efficiency, and number and size of cylinders.

1. Combustion-Chamber Design

The four types of combustion-chamber design in general use today are the conventional L-head, the Ricardo-type L-head, the conventional valve-in-head, and the modified valve-in-head. Of these, the Ricardo-type L-head and the conventional valve-in-head are the most widely used.

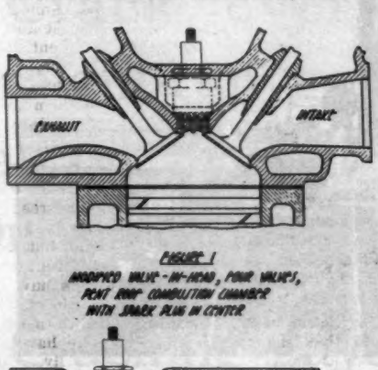


FIGURE 1
MODIFIED VALVE-IN-HEAD, FOUR VALVES, PENT ROOF COMBUSTION CHAMBER WITH SPARK PLUG IN CENTER

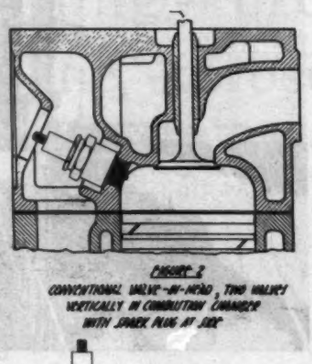


FIGURE 2
CONVENTIONAL VALVE-IN-HEAD, TWO VALVES VERTICALLY IN COMBUSTION CHAMBER WITH SPARK PLUG AT SIDE

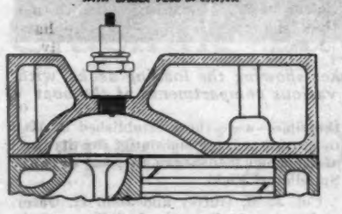


FIGURE 3
RICARDO-TYPE L-HEAD, TWO VALVES, PLUG IN CENTER OF COMBUSTION SPACE

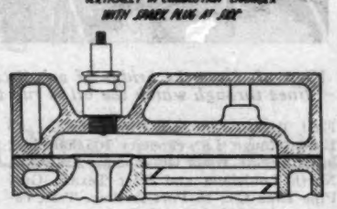


FIGURE 4
CONVENTIONAL L-HEAD, TWO VALVES, PLUG DIRECTLY OVER INLET VALVE

From Ricardo's exprimental work[2] and the recent road-test data obtained in America, the nearest practical approach to the ideal combustion chamber is the modified valve-in-head type. This design consists of a pentroof combustion chamber with four inclined valves and a centrally located spark plug. This arrangement eliminates corners and pockets where the gases may be trapped and subsequently detonated. The two intake and two exhaust valves opening directly into the combustion space insure high volumetric efficiency and good scavenging. The desirable short length of flame travel is secured by the centrally placed spark plug. A test car powered by an engine of this type showed the road rating for a cracked gasoline to be even higher than the Research Method rating.

Although the pent-roof type of combustion chamber is indicated as ideal on thermodynamic grounds and from the standpoint of detonation and depreciation, it is more costly and less convenient from a mechanical point of view; hence it is seldom used in automobile design except for racing cars.

A conventional valve-in-head combustion chamber with two vertical valves and one spark plug is located at the side of the chamber. This increases the tendency to detonate and necessitates, therefore, a somewhat lower compression ratio with consequent reduction in power output and efficiency.

From the standpoint of power output and efficiency there is little choice between a Ricardo-type L-head combustion chamber and the conventional valve-in-head type. On the other hand, as indicated by the recent road-test results, the Ricardo-type, high-turbulent combustion chamber is superior from the standpoint of detonation and depreciation. Both of these types, however, were found to be inferior to the modified valve-in-head design previously described.

The superiority of the Ricardo head as compared to the conventional valve-in-head with regard to detonation and depreciation is due chiefly to three things: First, the turbulence of the unburned portion of the charge tends to break up the flame front; second, the location of the spark plug in the center of the combustion space reduces the length of flame travel; third, the narrow clearance between the piston and cylinder head gives better cooling of the last portion of the charge burned.

A conventional L-head combustion chamber is the poorest from the standpoint of turbulence, power output, efficiency, detonation, and depreciation; and is not used to any extent in automotive design.

As mentioned before, the location of the spark plug is very important in combustion-chamber design. In order to reduce detonation to a minimum, the spark plug should be located as nearly in the center as possible. This gives the flame the shortest possible distance to travel before reaching the farthest corner of the combustion chamber; hence, lower combustion-chamber temperatures with a subsequent lessened tendency to detonate and depreciate fuels.

In designs where the plug cannot be centrally located, it is important that it be placed nearer the exhaust valve so that the charge will burn towards the cooler part of the chamber. It is also important that the plug be small so that it may be well cooled.

Another important factor in design, aside from shape of combustion chamber and location of valves and spark plugs, is the material of cylinder-head construction. According to F. F. Kishline, assistant chief engineer of the Graham-Paige Motor Corp.,[3] aluminum cylinder heads permit compression ratios approximately one unit higher than conventional cast-iron for the same fuels. The increased horsepower, torque, and fuel economy, together with other advantages resulting therefrom, are listed in the following table. These finding were obtained from dynamometer tests with a 62 to 65 octane number gasoline in two similar engines operated under identical conditions of air, water and mixture temperatures. Nothing was changed except the cylinder heads.

TABLE 1

	Cast Iron	Aluminum
Compression ratio	5.5 to 1	6.5 to 1
Percentage increase:		
Horsepower		10.5
Torque		7.0
Percentage decrease:		
Fuel consumption		10.5
Residual burned gas for portion of fresh charge		24.0
Power plant weight, approx.		5.0
Car weight, approx.		1.0

A partial explanation for this difference in combustion phenomena between cast iron and aluminum head materia. is given by Kishline as follows:

"It has been pretty definitely proven that the difference in functioning of the two materials does not occur on the water side. At the present time it seems to be indicated that the ability of the aluminum to conduct heat laterally away from hot areas coupled with its higher specific heat offers a possible explanation. The capacity for absorption or reflectivity probably plays a part, although how much is not known."

The utilization of aluminum heads will result in less depreciation of fuels because of the more uniform temperature of the combustion chamber and the lower temperature of the charge immediately before ignition. This lower charge temperature is due to the 23 per cent less exhaust gases in the combustion chamber for dilution of the fresh charge.

2. Cooling Efficiency

In general, there appears to be no definite relationship between the temperature of the liquid in the cooling jackets and the temperature of the surfaces inside the cylinder and combustion chamber. For example, the following comparison of maximum temperature has been found for two commercial automobile engines operated with practically the same cooling jacket temperature:

	Temp., ° F. Car A	Car B
Piston	465	500
Cylinder block	...	500
Cylinder head	375	335

Car A is a conventional valve-in-head engine and Car B a Ricardo-type L-head engine. In the case of Car A the piston takes the place of the cylinder block and piston of Car B. The added cooling of the cylinder block in Car B caused the lower maximum temperature of the piston.

From all indications, the problem of improving cooling efficiency is one of the most important confronting the engine designer. It is known that the knocking tendency and depreciation of

(Continued on Page 36)

*Presented before World Petroleum Congress, London, England.

Terminals Have Come to Be Among Important Features of Gulf Coast Oil Development

By THOMAS F. SMILEY

HOUSTON, Tex., Sept. 18.—Construction now well under way by the Pan American Refining Corp. of a large refinery, with storage, at Texas City, Tex., marks the addition of another of the great oil terminals which have come to be among the most interesting and important features of Gulf Coast petroleum development.

The Pan American Refining Corp., which is a subsidiary of the Pan American Petroleum Transport Co., has 267 acres of land at Texas City. How much of this will be devoted to storage tanks has not been made public. The initial capacity of the new refinery will be 25,000 bbls. of crude daily. To serve this refinery with crude a 40-mile extension of the Stanolind Pipe Line Co.'s line will be constructed. The Standard Oil Co. (Indiana) is the parent company of both Stanolind and Pan American.

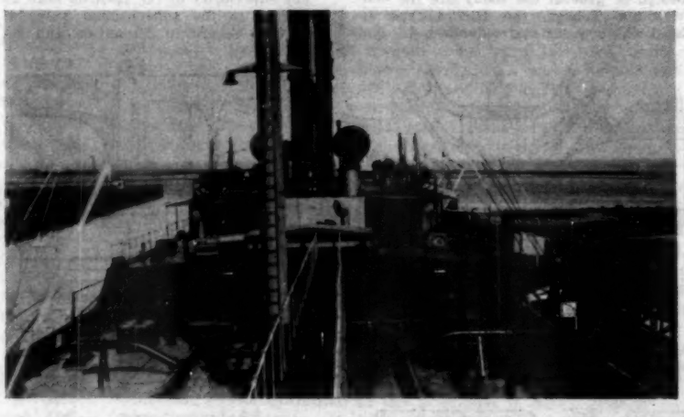
Although the word "terminal" entered the lexicon of oil many years ago, its use was confined to a relatively small group in the industry and to most persons it did not connote anything whatever pertaining to the handling of petroleum. It designated rather the end of a railroad line, with switches, stations, sheds and other necessary appurtenances. Even today one may search dictionaries of recent publication in vain for a definition of "oil terminal," for while the term now has gained general currency in the oil business, it does not seem to have found its way to the lexicographer's lair.

The oil terminal on the Gulf of Mexico consists ordinarily of storage tanks to receive crude produced in distant fields and a dock from which to transfer this oil or the refined products made from it to boats. In some cases there are only a few tanks. In others they cover hundreds of acres of ground.

Shipping Advantages

The shipping advantages offered by the Gulf Coast provide explanation for the growing number of oil terminals constructed there. Cargoes of oil or refined products loaded at Gulf Coast ports may be sent readily to either Atlantic seaboard or European points. The Houston Ship Channel, extending 50 miles inland from the Gulf to Houston, Tex., and navigable by ocean-going vessels, has become an important area for the accumulation and clearing of petroleum and its products. Its banks are dotted with docks and refineries of oil companies. Pan American long considered sites along the channel for its new project before deciding to utilize the land at Texas City, which it had owned since 1925.

Twenty-two separate trunk pipe line systems, with a daily carrying capacity of 1,160,000 bbls., converge fanlike at Gulf Coast ports from outside oil-producing areas. Besides these there are 12 pipe line systems, with a daily carrying capacity of 247,000 bbls., which originate inside the coastal territory itself, adding their flow to the accumulation at coast terminals and refineries. The biggest four trunk systems, each with a daily capacity of 100,000 bbls. or more, are those of the Humble Pipe Line Co., to Webster, Tex., capacity 115,000 bbls., bringing oil from North Texas, the Texas Panhandle, West Texas, Southwest Texas and East Texas; Magnolia Pipe Line Co., to Beaumont, Tex., capacity 110,000 bbls., bringing oil from Oklahoma, North Texas, West Texas, Southwest Texas, Texas Panhandle and East Texas; Standard Pipe Line Co., to Baton Rouge, La., capacity 105,000 bbls., bringing oil from Oklahoma, Arkansas, North Louisiana and East Texas; Gulf Pipe Line Co., to Port Arthur, Tex., capacity 100,000 bbls., bringing oil from Oklahoma, North Texas, Texas Panhandle, West Texas, East Texas, Darst Creek, North Louisiana and Arkansas. In addition to the pipe lines, tank cars bring oil and its products to terminals.



View aft from the bridge of an oil tanker showing the loading decks, with lines through which the oil is run to various compartments of the boat

Grouped in Four Districts

Almost all the terminals and refineries receiving this immense flow of crude oil are grouped in one or another of four main districts, each of which has the advantage of a deep-water channel navigable by ocean ships. These are the Houston-Texas City-Galveston district, the Beaumont-Port Arthur or Sabine district, the Corpus Christi-Harbor Island district, and the New Orleans-Baton Rouge or Mississippi district.

The terminals and loading docks already built at Gulf Coast points, if operated 24 hours a day, could actually place 13,231,200 bbls. of oil *or* refined products on board ocean vessels for shipment daily.

The first Gulf Coast terminal is believed to have been that erected in 1899 at Sabine Pass, Tex., by the J. S. Cullinan Pipe Line Co. to afford facilities for shipping Corsicana, Tex., crude by ocean tankers. The tanks and dock constructed were not used, however, until March, 1902, when a Standard Oil Co. tanker was loaded with crude, not from Corsicana, but from Spindletop. This tanker, the Atlas, was the first ever to leave from a Texas port, and it marked the beginning of a new movement in the transportation of crude from the Gulf Coast.

The next terminals—only they probably were not referred to in that way at the time—were those established in 1902 to provide storage and outlet for the flood of oil which had begun to pour from the Spindletop Field.

Col. J. M. Guffey and John H. Galey, of Pittsburgh, Pa., who had financed the drilling of the "Lucas gusher," Spindletop's discovery well, asked the Standard Oil Co. to take the oil. Thereupon a group of Standard officials, headed by Daniel O'Day and C. N. Payne, visited the field and inspected the flowing wells. "Too big," was Mr. O'Day's verdict. "There's more oil here than will be needed to supply the world for the next hundred years. Not for us."

Other Opinions Were Different

Colonel Guffey then appealed to the Mellons in Pittsburgh. The latter provided the money needed to lay a pipe line from Spindletop to Port Arthur, on the Gulf of Mexico, 20 miles to the south. Other lines were built to Sabine Pass. Crude accumulating in the tanks at Port Arthur and Sabine Pass were shipped by boat to Atlantic Coast refineries.

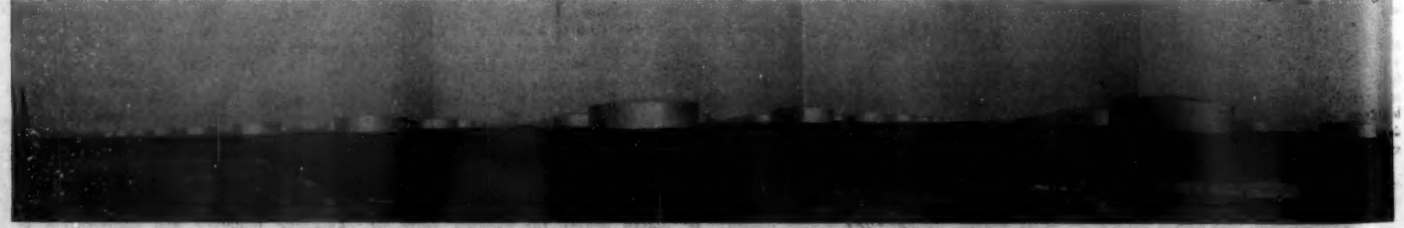
A second line to Port Arthur, with the required storage tanks and dock, was constructed through the efforts of J. S. Cullinan, who had joined Guffey & Galey in the attempt to interest Standard Oil Co. officials in the Spindletop Field. With the refusal of the Standard to invest any money in facilities for marketing Spindletop crude, Mr. Cullinan turned to John W. Gates, well-known capitalist, who advanced the funds needed to lay the second Port Arthur line. The Texas Company was organized soon afterward with Mr. Cullinan as president, and he continued as that company's head till 1913, when he withdrew to operate independently and to open the deep sands at Humble, Tex.

The Spindletop boom not only prompted construction of early oil terminals on the Gulf Coast, but it brought about organization of two important oil transportation companies, the Gulf Pipe Line Co. and the Texas Pipe Line Co. Both of these organizations expanded with the opening of the Sour Lake, Saratoga, Batson, Humble and Jennings Fields. Prior to 1917 the Texas system was operated as the pipe line department of the Texas Co.

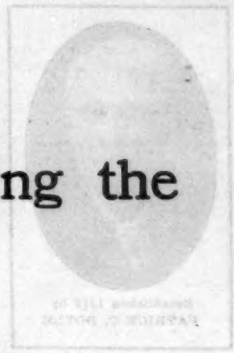
New Fields and More Terminals

Other companies, as new fields were developed, began installing terminals at various points along the Gulf Coast to provide facilities for shipping refined products or the crude itself to foreign ports or to places on the Atlantic Coast. Building of these terminals was stimulated in 1923 by the Luling boom and later on by the movement of crude from West Texas fields. Then came East Texas and its tidal wave which sent streams of oil in every direction that offered any semblance of an outlet. The Gulf Coast terminals and tank farm took on fresh importance, for they offered the readiest means of relieving the flood. Most of the East Texas production moved Gulfward, and if it had not been for the accessibility of this market the story of the spectacular field might have been a different one.

Since 1928 the shipments of oil by tanker to Gulf Coast terminals have been negligible save in the emergencies created by floods of oil from big new fields, in which cases existing pipe lines were inadequate to handle all the crude pressing for transportation to the coast. Although Gulf Coast terminals and tank farms provide storage capacity of approximately 6,500,000 bbls., it was reported at one time that the last gallon of this storage was in use as a result of the frantic rush to get oil out of the East Texas area. During 10 days, it was reported, 1,000,000 bbls. of oil above the regular pipe line runs had been taken in tank cars from East Texas to Gulf Coast railroad sidings, there to wait for buyers in a distress market.



Yount Lee Oil Co.'s terminal tank farm, Spindletop Field, on Neches River, Texas



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THE OIL AND GAS JOURNAL

PRODUCING REFINING NATURAL GASOLINE PIPELINE MARKETING

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What It Looks Like

The oil administration is now shaping up so the industry can see what it looks like.

First, there is the administrator, Mr. Ickes, who is also Secretary of the Interior and administrator of the three billion public works program, any one a full sized job. Of the three, Mr. Ickes will probably find the oil administration the most difficult.

Nevertheless, his manner of tackling it indicates an adequate understanding of its complications. He has fortified himself with an administrative board designed to serve both as a buffer and as an adviser, limiting himself, so far as possible, to executive decisions and supervisory duties.

Evidently, he still believes, despite all that has gone before, that he can depend upon the industry establishing a system of self-government that will work the code under governmental guidance.

The administrative board is to be advisory but the actual administration of the code will be up to the Committee of Fifteen and the regional subcommittees. Only if they fail will the administration take charge.

The personnel of the administrative board indicates its character and duties. It consists of four members of the legal staff of the Department of the Interior, N. R. Margold chairman of the board, Charles Fahy, vice-chairman, Norman L. Meyers, secretary and J. Howard Marshall; E. B. Swanson, chief of the petroleum economics division of the Bureau of Mines; Dr. John W. Frey, petroleum specialist of the Department of Commerce and J. Elmer Thomas as technical adviser.

Messrs. Swanson, Frey and Thomas were members of the Committee on Economics appointed by the former Federal Oil Conservation Board to prepare estimates of motor fuel demand and crude oil requirements which were issued during the past few years with the estimates of the American Petroleum Institute Committee on Economics.

Unfortunately these guides for operations were not as generally heeded as they should have been with the present situation as a result. The allocation of production by the oil administration is another story. It cannot be ignored.

But the administration's allocation, like the estimates in other years, must be subject to revision. The present allocation of 2,400,700 barrels daily has been criticised as excessive. Before it was announced it was assumed that 2,000,000 barrels daily should be the limit.

This, however, did not anticipate the regulation of withdrawals and imports since ordered, nor did it take into account the quantity of oil illegally produced which, it is assumed, is to be stopped.

But there is also to be considered that we are approaching the season of lessened consumption of motor fuel. These and other factors arising during administration will necessitate changes from time to time. In fact, since the whole code is an experiment nothing is so certain as changes in it. If a mistake is made at the outset the industry need not fear that it will be persisted in.

The administrator's address to the Committee of Fifteen and the regional chairmen Monday was heartening to the industry. He cited advances in crude and gasoline as proofs of improvement, a plain recognition of the fact that the oil industry after years of depression is entitled to a fair return on its investment and a fair price for its products.

The percentages of increase, however, may be misleading. Doubling the price of below cost gasoline could still be short of a living price and a hundred per cent gain in crude must be judged by the starting point.

One point which the administrator stressed is likely to be heard with mixed feelings in the industry. This was that every faction, every group must be represented. An industry which has suffered so much from fragmentary factionalism may have little patience with further obstruction but as a representative of the government Mr. Ickes perhaps could do no less, even though he thereby multiplies the troubles he has undertaken.

The revisions in the code made last week are but a sample of what may be expected as experience indicates the need for others. The changes in the price fixing section were the result of a prolonged reconsideration of the whole problem.

It was announced that the Committee of Fifteen had laid a new price fixing formula on the administrator's desk but the details have been carefully guarded.

One report is that the previous plan of basing crude prices on gasoline prices has been abandoned and that the starting point will be recovery cost. A 6½ cents refinery price and a $1.11 crude price would be a 17.1 instead of an 18.5 ratio between gasoline and crude. With a 6½ cents distribution spread and an approximately 3 cent freight rate and an average tax of 5½ cents the filling station price would be 21½ cents. Minimum prices for other products have also been discussed.

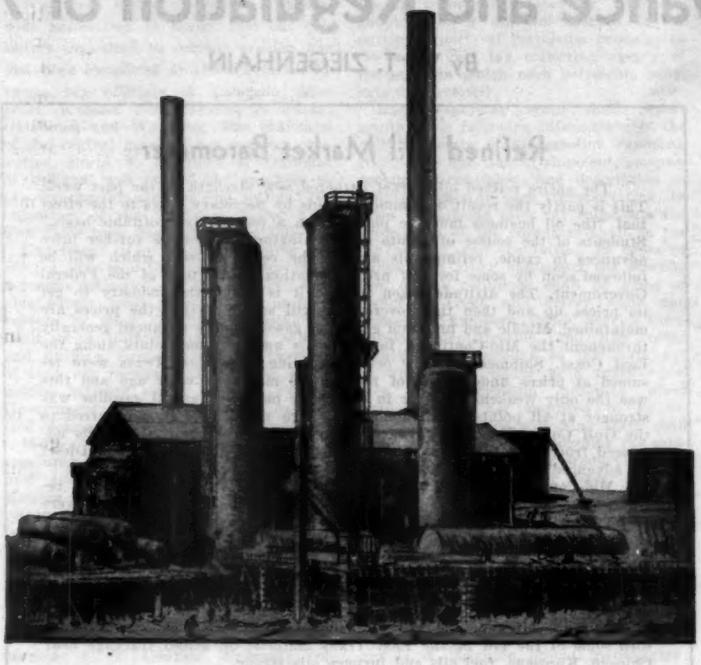
As to prices, Mr. Ickes' remark about the notable improvement so far shown by the industry implies official approval of the increases so far made.

It will be noted, however, that he went much farther than that, when he added that "Your problem is to hold and consolidate this improvement, so far as it is justified, while paving the way for further improvement."

The administrator's delay in approving the price formula given to him by the Committee of Fifteen may be significant. At the moment it seems not improbable that the industry may establish prices at a satisfactory level that will make governmental action unnecessary.

There is no doubt that this would be much more satisfactory to the administration at Washington than being compelled to set a precedent in fixing prices which might have far reaching implications.

One element that may affect the situation is the protest filed by Mrs. Rumsey on behalf of the Consumers Board of the NRA asking Mr. Ickes not to fix prices on gasoline until consumers can be heard. Such a hearing, if held, might be used to show the country the truth about gasoline prices, that the real difference is in the increased tax on gasoline by State and National, legislators.



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Refiners Solidify Market in Anticipation of Crude Oil Advance and Regulation of All Prices

By W. T. ZIEGENHAIN

Reflecting a stronger belief that the oil industry is headed toward higher crude prices within a week, the announcement of which will be followed by some definite form of price regulation by the administration at Washington, the Group 3 (Oklahoma) refinery market caught up the loose ends that had been neglected in last week's upward revision of prices and solidified the entire price structure. The only exception to this general move was the weakening of third grade gasoline prices caused by a slightly freer offering of third grade gasoline in East Texas. This was overshadowed, however, by the firmness of the middle and premium grades and the substantial advances made by natural gasoline, kerosene and all grades of fuel oil.

Price Control Coming?

Salesmanagers have had their eyes focused upon Washington for the past two weeks. They have been attempting to interpret each move there with the hope of ascertaining whether price fixing is to be resorted to. Many believe price fixing must be obtained if the present or a higher price level is to be maintained during the admittedly slow market.

Three definite moves have been made by Secretary Ickes, Federal oil administrator, within the past week which have been taken as significant. It is known that the regional committees which are to see that the provisions of the oil code are correctly interpreted and enforced in their respective areas have been chosen and the announcement of these awaits the approval of their membership by the President. The fact that the President is to give the personnel of these committees his attention and then will place the stamp of approval on the list should give added weight to the committee's decisions. In this manner speedy and forceful decisions are expected from them and this will facilitate the smoother operation of the code.

Because so much care is being taken in the selection of these committees a delay has come in their announcement. This delay has caused all manner of prognostication. The more general belief is that the administration wants to make sure that all "monkey wrenches" are left out of the works before it ever starts and once the committees are announced they will be expected to function with unusual precision and forcefulness. If price regulation is to be made a practice, the need of such a group of regional committees becomes obvious.

Another definite move on the part of the administrator in the past week was the appointment of an advisory board made up largely of government officials who are especially familiar with the various phases of the oil business. The names of the board are given elsewhere in this issue and it may be seen that the group could readily analyze any price fixing plan that the industry's representatives may advance. They are also in a position to judge equitable cost figures and to establish reasonable price differentials among the various products and among the many refining and marketing centers.

Definite Form of Price Fixing

The third factor that has been interpreted generally as a move toward some definite form of price fixing is the calling together at the invitation of Secretary Ickes of a group of executives from 25 jobber associations. Their views will be sought on various problems arising from the operation of the code but the meeting is also expected to afford an opportunity for the administration to get their views in regard to a program designed to regulate prices at the bulk plant and at the filling stations as well as regulate the price of crude and prices at refineries. The attitude of the jobbers is particularly important to learn at this time because of the request made about a week ago by Mrs. Charles C. Rumsey, chairman of the Consumers Board to Secretary Ickes, that he make "no decision to fix the retail price of gasoline under the oil code until there has been a full hearing of the consumers' side of the case." She also said, "Persuasive representations have been made to this board that uniform retail price fixing will hurt the consumer and the retail development of more efficient methods of distribution, without contributing anything basic to the solution

Refined Oil Market Barometer

The entire refined oil market gathered new strength in the past week. This is partly the result of comments made by Secretary Ickes to the effect that "the oil business must be placed upon a reasonably profitable basis." Students of the course of events at Washington also foresee further price advances in crude, refined oils and in the retail division which will be followed soon by some form of price regulation on the part of the Federal Government. The attitude taken is that it is up to the industry to get its prices up and then the Government will see to it that the prices are maintained. Middle and premium grades of gasoline were advanced generally throughout the Mid-Continent, in California and at some points along the East Coast. Shipments of low octane gasoline from East Texas were resumed at prices under those of the general market a week ago and this was the only weakening factor in the entire market. Natural gasoline was stronger at all points as an abnormally high rate of shipping occurred to the Gulf Coast. Kerosene advanced at practically all points. Fuel oils advanced from 5 to 10 cents a barrel at practically all points while Diesel oil advanced 20 cents at New York. Lubricants and wax remained firm.

Mid-Continent—Natural gasoline advanced above the low octane refinery gasoline price as a feature of market. Kerosene and furnace oils were strong. Fuel oils advance. Lubricants and wax were firm with promise of early advance.

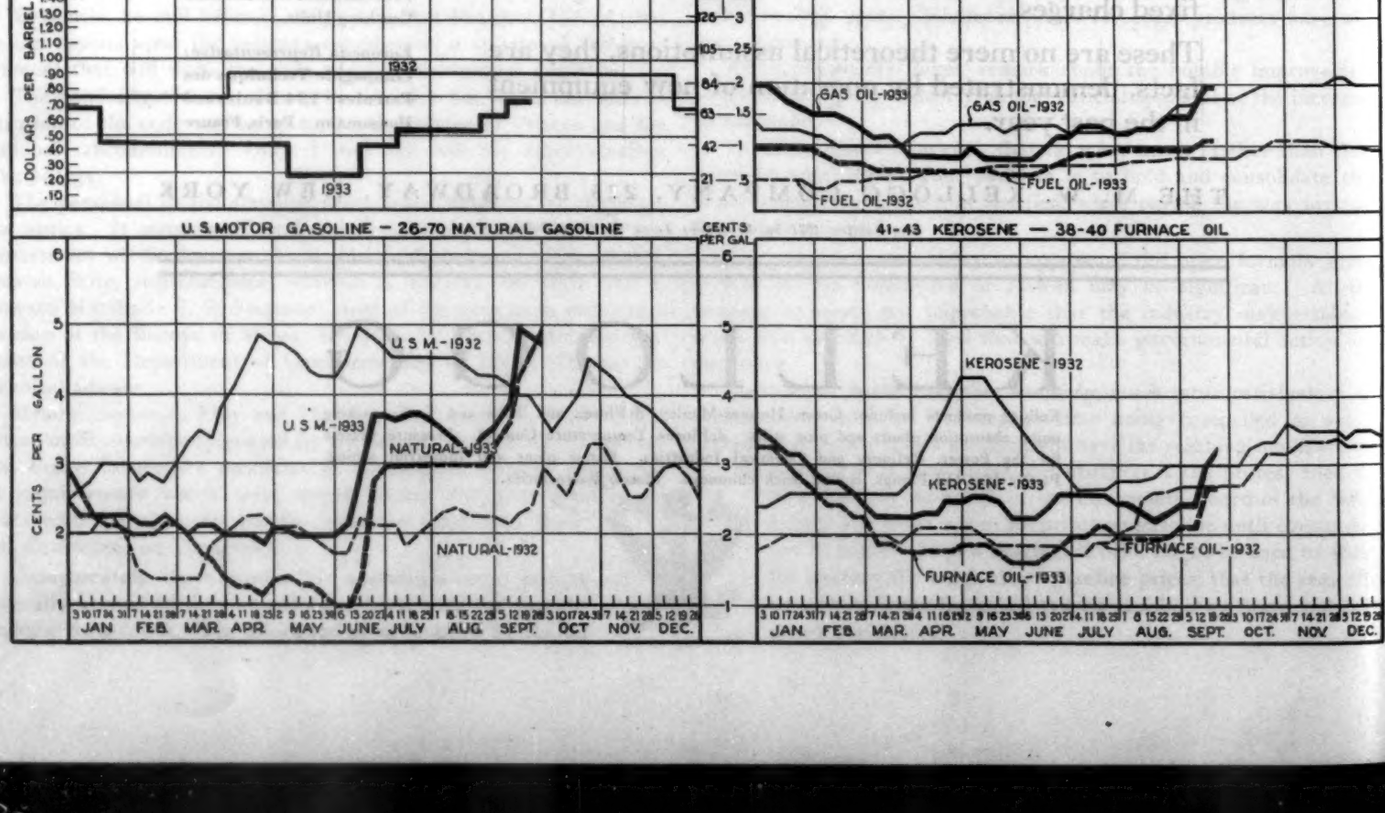
East Coast—General market strong with substantial advance shown in fuel oil prices. Lubricants advance.

California—Refinery gasoline and natural gasoline prices advanced with balance of market steady.

Chicago—High octane gasoline advances while market forced to absorb some of the low octane East Texas material on leased trackage near Chicago. Kerosene, fuel oils and furnace oils strong.

Pennsylvania—Gasoline and kerosene prices higher with balance of market in firm position.

Representative Mid-Continent Quotations on Crude Oil and Refined Products Basis Oklahoma (Group 3)



of the oil problem." Obviously, a request from this important board must be given full consideration.

However, it will not be difficult to show that retail gasoline prices are abnormally low so far as the price received by the marketing companies are concerned and that the really objectionable factor in the consumers' gasoline cost has been the mounting tax. In 1923 this averaged about 1.3 cents per gallon and at present is averaging 5.6 cents per gallon. The average net gasoline filling station price for the past 20 years was 19.38 cents and at present is about 15 cents. On this basis, the oil marketing companies could expect an advance of 2 to 4 cents a gallon in order to bring income to a more normal level.

Gasoline

Several inconsistencies are seen in the accompanying table of gasoline prices by grades in which the third grade is quoted at 4¾ to 5¼ cents compared with a flat 5 cents a week ago. A week ago, however, there was little trading and the price was established by the movement of relatively few cars. East Texas refiners were withholding their production from the spot market and prices were established by the larger units. On Tuesday of this week, however, there was more trading. East Texas refiners had resumed spot trading and some of the material being held on leased tracks near Chicago, and other places was being offered out. In East Texas quotations as low as 4¼ cents were heard and the trackage material was being offered at 4⅝ cents. These two factors caused some Oklahoma refiners to resume offering their low octane gasoline at 4¾ cents on Tuesday while many of the larger refiners have taken the same stand as that taken a week ago, namely, that gasoline prices will go higher over the immediate future. What little material they moved brought 5¼ cents.

Their ideas were also reflected in the quarter-cent advance recorded in the market for the regular grade, which was firm Tuesday at 5½ cents.

Natural Gasoline

The unusually strong natural gasoline market is directly contributable to the increased shipments to the Gulf Coast. Some of this material is going for immediate shipment abroad and some of it is finding its way into storage there. For the present at least, 26-70 natural gasoline commands a premium over the low grade U. S. Motor refinery gasoline. On Tuesday the price was strong at 5 cents and the 18-55 grade was firm at 6 cents. The low vapor pressure grades were commanding a substantial premium over regular U. S. Motor refinery gasoline.

Kerosene

The stronger retail market for kerosene and the belief that a price of 4½ cents will be established for the 41-43 grade in the Mid-Continent under a price-fixing plan discussed on this page a week ago, refiners held firmly to their material. Shipments were made at 3¼ to 3½ cents which represents an advance of one-fourth cent in the low of the range.

Furnace Oils

Although the price list for furnace oils does not contain as many advances that market is very strong and is in a favorable position to continue its advance throughout the next three months regardless of any further crude advances.

Gas Oil and Fuel Oils

U.G.I. gas oil was firmly held throughout the past week at 2 cents. The low cold test grades showed fractional advances in the high of their price range and the general market promises to slowly move upward over the next two months.

All grades of fuel oil took a 5-cent per barrel advance during the week. Some of the larger refiners are not anxious to sell even at the higher quotations and anticipate a fixed price for 18 gravity fuel of 66 cents a barrel over the immediate future. This idea has originated from the fact that strong efforts continue to be made to bring the posted price for 36 gravity crude to $1.11. The fuel oil price has been taken as 60 per cent of the crude prices as is customary on contracts.

Lubricants and Wax

No change has been made in the list of prices on neutrals or bright stocks in the past week, although the market gained strength as the result of improved market conditions in Pennsylvania and along the Gulf Coast.

Efforts are being made to advance wax prices over the immediate future and most of the volume moving on stop orders at present is carrying the high of the quoted price range.

Tax Officials of Seven States Effect an Organization to Fight Tax Evasion

By ROBERT C. CONINE

What may be the nucleus of a nation-wide association of motor fuel tax collectors organized to combat evasion has just been completed at Denver, Colo., by excise tax officials of Colorado, Missouri, Kansas, New Mexico, Nebraska, Oklahoma and Wyoming. The chairman of the central gasoline tax evasion committee, Frank V. Martinek of Standard of Indiana, was one of the speakers at the organization meeting and outlined the objectives of the "Midwest Motor Fuel Tax Collectors Association" as follows:

Enactment of a uniform gasoline tax law; a precise definition of motor fuel; a precise definition of "distributor"; suitable surety bonds; keeping of uniform reports by state distributors; establishment of a uniform accounting system and uniform field accounting; checking of tank car receipts; exchange of information between states and the Federal Government; establishment of a centralized clearing house with the oil industry.

Homer F. Bedford, Colorado state treasurer, was elected president of the new association, and Roy H. Cherry, Kansas state oil inspector, was made secretary. These officers were instructed to invite officials of North Dakota, South Dakota, Montana, Arizona, Iowa and Idaho to join the association. Members appointed to the executive committee are: A. W. Logan, director of the department of inspections and registrations, Kansas; Juan N. Vigil, state comptroller, New Mexico; C. T. Conklin, Nebraska collector of gasoline tax; L. C. Harries, attorney for gasoline division, Oklahoma, and Charles B. Morgan, deputy state treasurer of Wyoming.

A committee of representatives from the three producing states, Oklahoma, Kansas and Wyoming, presented the following report in connection with the adoption of a uniform method of reporting exports of petroleum products to the motor fuel tax collecting agency of the state in which such petroleum products are received:

Each exporting state shall report monthly the following information to the receiving state of all gasoline exported, giving date and time of shipment, amount, consignor, consignee, and description of container used in such transportation. In cases of railroad tank car shipments the description of the container shall be the car number and the initial. In cases of motor tank truck shipments the description of the container shall be name of owner of truck and driver, state and license tag numbers, Public Service Commission identification and any other identification peculiar to the state out of which such motor tank truck operates. No petroleum products other than gasoline are required to be reported except each exporting state shall apply all information concerning the shipment of other petroleum products to any individual distributor or dealer in such products, upon request being made, therefor, by the state in which such products are received.

Others attending the organization meeting were: Colorado, Oliver Dean and R. S. Briggs, attorneys for the tax department, and Glenn Wilson, state excise tax commissioner; Kansas, Alex Hotchkiss, attorney for inspection department, and H. A. Brighton, special investigator; Missouri, Henry A. Perriguey, state oil inspector; Nebraska, A. D. Godfrey, tax evasion committee; Wyoming, A. L. Duhig, chief tax inspector, and C. M. Cochrane, gasoline tax inspector; New Mexico, C. R. Sebastian, assistant state comptroller.

GASOLINE TAX BURDEN

WASHINGTON, D. C., Sept. 18.—Federal taxes on gasoline provided 14.31 per cent of the Federal Government's revenue, in the year ending June 30, 1933, total collections being $124,929,412.02. This represents revenue from the Federal 1-cent tax, which went into effect June 19, 1932, and does not include revenue from the additional half-cent tax. Federal taxes on passenger motor vehicles, motor trucks, parts, accessories, tires, etc., provided 3.76 per cent of the revenue, or $32,805,322.86.

PRORATION HEARING SEPT. 28

AUSTIN, Tex., Sept. 19.—The Texas Railroad Commission today announced a new state oil proration hearing for September 28, following the scheduled reallocation between states September 28 by the Federal Oil Administration. In the meantime the commission said it may not issue any temporary order to divide the present allowable between fields, based on the recent hearing.

American Petroleum Institute Weekly Refinery Statistics

Figures below reported for week by American Petroleum Institute. (1) Per cent refinery capacity represented. (2) Daily average crude runs to stills. (3) Total motor fuel stocks. (4) Gas oil and fuel oil stocks. All figures in 42-gallon barrels.

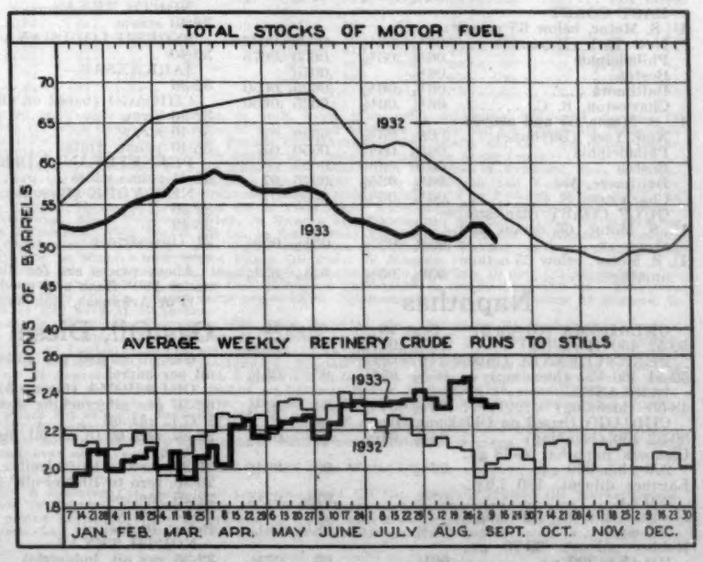
Week Ending September 16, 1933, Compared to Week Ago

	Week ending Sept. 16, 1933				Week ending September 9, 1933			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
East Coast	100.0	449,000	13,435,000	9,130,000	100.0	496,000	14,029,000	9,203,000
Appalachian	92 6	101,000	1,822,000	843,000	92.6	85,000	1,835,000	839,000
Ind., Ill., Ky.	97.3	370,000	6,330,000	5,715,000	97.3	328,000	6,765,000	5,582,000
Okla., Kans. Mo.	82.1	247,000	4,843,000	4,138,900	82.1	262,000	5,032,000	4,215,000
Inland Texas	58.7	101,000	1,270,000	1,837,000	58.7	99,000	1,278,000	1,808,000
Texas Gulf	98 0	428,000	5,860,000	6,984,000	98 0	420,000	5,891,000	6,966,000
Louisiana Gulf	100.0	116,000	1,126,000	2,014,000	100.0	137,000	1,136,000	1,924,000
N. La. and Ark.	92.6	53,000	221,000	668,000	92.6	55,000	246,900	660,000
Rocky Mtn.	78.8	38,000	805,000	715,000	78.8	36,000	834,000	715,000
California	96.9	484,000	13,969,000	98,608,900	96.9	449,000	13,967,000	98,847,000
Total U. S.	92.2	2,387,000	49,621,000	130,652,000	92.2	2,367,000	50,913,000	130,759,000

Total motor fuel stocks, Bureau of Mines basis, 51,570,000 bbls.

Week Ending September 16, 1933, Compared to Year Ago

	Week ending Sept. 16, 1933				Week Ending September 17, 1932			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
East Coast	100.0	449,000	13,435,000	9,130,000	99 1	424,000	14,910,000	9,190,000
Appalachian	92 6	101,000	1,822,000	843,000	95.0	90,000	1,775,000	998,000
Ind., Ill., Ky.	97.3	370,000	6,330,000	5,715,000	97.5	302,000	6,964,000	4,287,000
Okla., Kans. Mo.	82.1	247,000	4,843,000	4,138,900	88.4	207,000	4,523,000	3,379,000
Inland Texas	58.7	101,000	1,270,000	1,837,000	72.1	86,000	1,453,000	2,036,000
Texas Gulf	98.0	428,000	5,860,000	6,984,000	98.2	367,000	4,904,000	10,447,000
Louisiana Gulf	100.0	116,000	1,126,000	2,014,000	97 3	81,000	1,503,000	4,364,000
N. La. and Ark.	92.6	53,000	221,000	668,000	94 6	45,000	181,000	581,000
Rocky Mtn.	78.8	38,000	805,000	715,000	91 4	37,000	1,466,000	542,000
California	96.9	484,000	13,969,000	98,608,900	94.6	419,000	15,417,000	99,547,000
Total U. S.	92.2	2,387,000	49,621,000	130,652,000	93 6	2,058,000	53,099,000	135,271,000



Data based on weekly reports of American Petroleum Institute. Figures for week just ended not shown in graph but are included in accompanying table

REFINERY AND CRUDE PRICES

Quotations on refined products are for interstate or export movement except as otherwise noted

EXCLUSIVE OF TAXES

The following quotations are exclusive of the Federal excise taxes of 1½ cents a gallon on gasoline and 4 cents on lubricating oils, which became effective June 17, 1933.

Refinery Gasolines

	Sept. 19		Sept. 12	
OKLAHOMA (Group 3)—				
*U. S. Motor grades:				
Regular	.05½		.05¼	.05½
Premium	.06		.06	
Third grade	.04¾	.05¼	.05	
60-62 400 grades:				
Regular	.05½	.05⅝	.05⅝	.05⅝
Premium	.06	.06⅛	.06	.06⅛
Third grade	.05		.05	
64-66 390	.05¼		.05¼	
64-66 375	.05⅝	.05½	.05⅝	
68-70 350	.05½		.05½	
NORTH TEXAS—				
U. S. Motor grades:				
Regular	.05⅜	.05½	.05⅛	.05⅜
Premium	.05⅝	.05⅞	.05¾	.05⅞
Third grade	.04⅝	.05	.04¾	.05
60-62 400	.05⅛		.05	.05¼
64-66 390	.05¼		.05⅛	
64-66 375	.05¼	.05⅜	.05¼	
64-66 360	.05½		.05½	
†NORTH LOUISIANA—				
U. S. Motor grades:				
Regular	.05⅜		.05½	.05¾
Premium	.06¼	.06½	.06¼	
Third grade	.05½	.05¼	.05¼	
60-62 400	.05⅝	.05½	.05⅝	.05½
†ARKANSAS—				
U. S. Motor grades:				
Regular	.05⅝		.05½	.05¾
Premium	.06¼		.06¼	
Third grade	.05¼		.05⅝	
CHICAGO (based on Oklahoma Group 3)—				
U. S. Motor grades:				
Regular	.05½	.05⅝	.05	.05½
Premium	.05⅝	.06¾	.05½	.06
Third grade	.04⅝	.05¼	.04¾	.05
60-62 400	.04⅞	.05¼	.04⅞	
64-66 375	.05¼	.05½	.05	.05¼
68-70 360	.05⅜	.05⅝	.05¼	.05⅝
Aviation fighting grade	.05¾	.06¼	.05¾	.06
PENNSYLVANIA (inland refineries)—				
U. S. Motor	.05⅝	.06	.05½	.05¾
60-62 400	.05⅞	.06¼	.05⅝	.05⅞
64-66 375	.06¼	.06½	.06	.06¼
68-70 350	.06¾	.07	.06¼	.06½
CALIFORNIA (domestic movement)—				
54-58 U. S. Motor	.07½	.08¾	.07	.08
58-60 400	.08¼	.09¼	.07¾	.08¾
EAST COAST—				
U. S. Motor, below 65 octane:				
New York (Bayonne)	.06¼	.06½	.0625	.0637
Philadelphia	.06½	.06¾	.0650	.0675
Boston	.06½		.0670	
Baltimore	.06¼	.06½	.0625	.0650
Charleston, S. C.	.06¼	.06½	.0625	.0650
U. S. Motor, 65 and above:				
New York (Bayonne)	.06½	.06¾	.0690	.07
Philadelphia	.06½	.06¾	.0650	.07
Boston	.0670	.06¾	.0695	
Baltimore, Md.	.06½	.06¾	.0675	.07
Charleston, S. C.	.06¼	.06¾	.0650	.07
GULF COAST (domestic)—				
U. S. Motor, 65 octane and above	.05⅜	.05⅞	.05½	.05⅝
U. S. Motor, below 65 octane number	.05⅜	.05½	.05⅛	.05¼

*Octane Ratings—The following octane ratings apply to the three grades of U. S. Motor gasoline: Regular 60-64 octane number, premium 65 and above octane number; third grade, 50 and below octane number. Octane ratings determined by C.F.R. Motor Method.

Naphthas

	Sept. 19		Sept. 12	
OKLAHOMA (Group 3)—				
50-52 450 (blending)	.04½	.04⅝	.04	.04½
PENNSYLVANIA (inland refineries)—				
50-54 430-450 (blending)	.05½	.05⅝	.05	.05¼
†ARKANSAS—				
48-50 (blending)	.04½	.04¾	.04	.04¼
CHICAGO (based on Oklahoma Group 3)—				
50-52 450 (blending)	.04½	.04¾	.04	.04½
Cleaners' naphtha, 56-58 gr., 200 i.b.p.-320 e.p.	.06½		.06	.06¼
Lacquer diluent, 180 i.b.p.-250 e.p.	.07¾		.07¼	.07½
Lacquer diluent, 140 i.b.p.-200 e.p.	.08¾		.08¼	.08½
Rubber solvent, 68-70 gr., 100 i.b.p.-300 e.p.	.06¼		.06	.06¼
Stoddard solvent, 300 i.b.p.-410 e.p., over 83° flash	.05¾		.05½	.05⅝
V.M.&P. naphtha, 56-58 gr., 190-200 i.b.p.-330 e.p.	.06		.05¾	.06
Petroleum spirits	.05¼		.04¾	.05

Natural Gasolines

	Sept. 19		Sept. 12	
OKLAHOMA (Group 3)—				
Grade 18-55	.06		.04¾	
Grade 26-70	.05		.04¼	.04½
Grade 30-70	.04¾		.04⅛	
Low vapor pressure grades:				
15 lb. v.p. (max.)	.06¼	.06½	.05½	
11 lb. v.p. (max.)	.06½		.06	.06¼
NORTH TEXAS—				
Grade 18-55	.05⅞		.04⅝	.04¾
Grade 26-70	.04⅞	.05	.04⅛	.04¼
Grade 30-70	.04⅝		.04	
Low vapor pressure grades:				
15 lb. v.p. (max.)	.06	.06⅜	.05½	
11 lb. v.p. (max.)	.06¼	.06½	.06¼	
NORTH LOUISIANA—				
Grade 26-70	.05⅛		.04⅜	
CALIFORNIA—				
75-78 375	.05¾	.07	.05¾	.06¾

Kerosenes

(All kerosenes water white)

	Sept. 19		Sept. 12	
OKLAHOMA (Group 3)—				
41-43	.03¼	.03½	.03	.03½
42-44	.03⅜	.03¾	.03¼	.03¾
NORTH TEXAS—				
40-41	.03	.03⅛	.02¾	.02⅞
41-43	.03⅛	.03⅜	.02⅞	.03¼
†NORTH LOUISIANA—				
41-43	.03¾	.04	.03½	.03¾
42-44	.03⅞	.04⅛	.03¾	
†ARKANSAS—				
41-43	.03¾	.04	.03½	.03¾
PENNSYLVANIA (inland refineries)—				
45	.04½	.04¾	.04¼	.04⅜
46	.04⅝	.04⅞	.04⅜	.04⅝
47	.04⅞	.05⅛	.04½	.04¾
CHICAGO (based on Oklahoma group 3—				
41-43	.03¼	.03½	.02¾	.03
42-44	.03⅜	.03⅝	.02⅞	.03
*CALIFORNIA—				
38-40 high burning test	.04	.04½	.04	.04½
NEW YORK (Bayonne, N. J.)—				
41-43	.05⅜	.05½	.05¼	.05½
GULF COAST (domestic)—				
41-43 water white	.04	.04¼	.04	.04¼

*For Pacific Coast consumption.
†For Arkansas, Louisiana and Mississippi delivery.

Furnace Oils and Tractor Fuels

	Sept. 19		Sept. 12	
OKLAHOMA (Group 3)—				
32-36 straw	.02⅞	.03⅛	.02¾	.03⅛
36-38 straw	.02⅝		.02½	
38-40 straw	.02¾	.03	.02¾	.03
39-41 prime	.02⅞	.03	.02⅞	.03
NORTH TEXAS—				
38-40 straw	.02⅝	.02¾	.02⅝	
†NORTH LOUISIANA—				
36-40	.03		.02⅞	.03
†ARKANSAS—				
32-36	.03		.02⅞	.03
CHICAGO (based on Oklahoma Group 3)—				
32-36 straw	.02¾	.03	.02½	
38-40 straw	.02⅞	.03⅛	.02½	.02⅝
38-40 prime white	.03	.03¼	.02⅝	.02¾
PENNSYLVANIA (inland refineries)—				
40-41 prime white	.03¾	.04	.03¾	.04
NEW YORK (Bayonne, N. J.)—				
32-36	.04½		.04	.04½
36-40	.05½		.05	.05½
21 (industrial)	.04		.03½	.04

Above prices are for distillate oils of zero cold test under 190° flash and good odor.
†For Arkansas, Louisiana and Mississippi delivery.

Gas Oil, Diesel Oil and Fuel Oil

Gas oil quoted per gallon basis; Diesel oil and fuel oil per barrel.

	Sept. 19		Sept. 12	
OKLAHOMA (Group 3)—				
32-36 gas oil cracking stock	.01⅞	.02⅛	.01⅞	.02⅛
U.G.I. gas oil	.02		.02	
32-36, zero to 15 gas oil, high flash	.02¼	.02⅜	.02¼	
28-30, zero to 10 fuel oil	.80	.85	.75	.80
26-30, zero to 10 fuel oil	.80		.75	
24-26 fuel oil	.60	.65	.55	.60
20-22 fuel oil	.55	.60	.50	.55
Below 16 fuel oil	.50	.52½	.45	.50
NORTH TEXAS—				
32-36 gas oil, industrial	.02		.02	
22-26 fuel oil	.57½	.62½	.55	.60
Below 20 fuel oil	.47½	.50	.45	
†NORTH LOUISIANA—				
32-36 gas oil, zero	.03		.02¾	.03
14-16 fuel oil	.50	.60	.45	.55
†ARKANSAS—				
30-32 gas oil, zero	.02¾	.03	.02½	.03
14-16 fuel oil	.50	.55	.45	.55
CHICAGO (based on Oklahoma Group 3)—				
32-36 gas oil, industrial	.01⅞	.02⅛	.01¾	.01⅞
28-30 (zero) fuel oil	.85	.95	.75	.85
26-28 (zero) fuel oil	.75	.80	.67½	.75
22-26 (zero) fuel oil	.65	.70	.62½	.65
18-22 (zero) fuel oil	.60	.62½	.57½	.60
Below 18 fuel oil	.45	.50	.40	.45

Note: Fuel oils of more than 40 cold test generally 5 to 15 cents per barrel less in all areas than shown in above tables.
†For Arkansas, Louisiana and Mississippi delivery.

PENNSYLVANIA (inland refineries)—				
36-40	.03½	.03¾	.03½	
CALIFORNIA—				
30-34 gas oil per bbl.	.85	.95	.85	.95
27 plus Diesel	.85	.95	.85	.95
15-19 bunker (at tidewater)	.50	.65	.50	.65
15-19 (cargo lots)	.50	.60	.50	.60
15-19 (tank cars)	.45	.55	.45	.55
GULF COAST—				
28-30 gas oil	.03	.03¼	.03	.03¼
28-30 Diesel	1.60		1.60	
Bunker C (bulk cargoes)	.92½	.95	.92½	.95
Bunker C (bunkers)	.95		.95	
NEW YORK (Bayonne, N. J.)—				
28 plus, gas oil	.04½		.04	
*28-30 Diesel	1.95		1.75	
28-30 Diesel (tank cars)	.04½		.04	
†Bunker C	1.10		1.05	1.10

*Lighterage 6½ cents per barrel.
†Contract price at New York Harbor to ocean-going steamships only.

Petroleum Coke*

Prices per ton f.o.b. refineries in Chicago area.

	Sept. 19		Sept. 12	
Breeze (screenings)	5.25		5.25	
Still runs	6.25		6.25	
Lump and egg	7.00	7.25	7.00	7.25

*Refineries will absorb freight to 80 cents a ton.

Neutral Oils

(Viscosity at 100° F. and color)

	Sept. 19		Sept. 12	
OKLAHOMA (Group 3)—				
Zero to 10 Cold Test:				
150-3	.07¼	.07½	.07¼	.07½
180-3	.08½	.08¾	.08½	.08¾
180-4	.08¼	.08½	.08¼	.08½
200-3	.09	.09¼	.09	.09¼
200-4	.08¾	.09	.08¾	.09
240-3	.11	.11¼	.11	.11¼
240-4	.10¾	.11	.10¾	.11
280-3	.12	.12¼	.12	.12¼
280-4	.11½	.11¾	.11½	.11¾
300-3½	.12¾	.13	.12¾	.13
350-3½	.13¾	.14	.13¾	.14
400-4	.14¾	.15	.14¾	.15
500-4½	.15¾	.16	.15¾	.16
100-2 paraffin oil	.05¼	.05½	.05¼	.05½
15-30 Cold Test:				
200-3	.08¼	.08½	.08¼	.08½
200-4	.08	.08¼	.08	.08¼
240-3	.10¼	.10½	.10¼	.10½
240-4	.10	.10¼	.10	.10¼
280-3	.11¼	.11½	.11¼	.11½
280-4	.11	.11¼	.11	.11¼
PENNSYLVANIA—				
150 vis., No. 3, 400-405:				
Zero pour test	.17	.17½	.17	.17½
10 pour test	.16½	.16¾	.16½	.16¾
15 pour test	.15	.15¼	.15	.15¼
25 pour test	.14¼	.14½	.14¼	.14½
180 vis., No. 3, 25 pour test	.16¾	.17	.16¾	.17
200 vis., No. 3:				
Zero pour test	.21½	.21¾	.21½	.21¾
10 pour test	.20½	.20¾	.20½	.20¾
15 pour test	.19½	.19¾	.19½	.19¾
25 pour test	.19¼	.19½	.19¼	.19½
GULF COAST—				
Pale Oils:				
100-2-2½	.04½		.04½	
200-3	.05¾	.06	.05¾	.06
300-3	.06½		.07	
500-3½	.07¼	.07½	.08½	.08¾
750-3½	.08¼	.08¾	.09¼	.09¾
1,200-3½	.09	.09¼	.10	.10½
2,000-4	.10	.10¼	.11	.11¼
Red Oils:				
200-5-6	.04½		.04½	
300-5-6	.05½	.05¾	.06	.06¼
500-5-6	.06¼	.06½	.07¼	.07½

750	.07¼	.07½	.08¼	.08½
1,200-5-6	.08	.08½	.09	.09½
2,000-6 plus	.09	.09¼	.10	.10¼
CALIFORNIA—				
Pale Oils:				
100-2½-3	.09	.09½	.09	.09½
200-2½-3	.09½	.10	0.9½	.10
300-3-3½	.10½	.11	.10½	.11
350-3-4	.11	.11½	.11	.11½
400-3-4	.11½	.11¾	.11½	.11¾
450-3-4	.11¾	.12	.11¾	.12
500-3-4	.12	.12½	.12	.12½
Red Oils:				
200-4-5	.09½	.10	.09½	.10
300-5-6	.10½	.11	.10½	.11
350-5-6	.11	.11½	.11	.11½
400-5-6	.11½	.11¾	.11½	.11¾
450-5-6	.11¾	.12	.11¾	.12
500-5-6	.12	.12¼	.12	.12¼
600-5-6½	.12¼	.12½	.12¼	.12½
700-6½ plus	.12½	.12¾	.12½	.12¾
750-6½ plus	.12¾	.13	.12¾	.13
900-6½ plus	.13	.14	.13	.14

Bright and Steam Refined Stocks

	Sept. 19		Sept. 12	
OKLAHOMA (Group 3)—				
630 light green	.06¾	.07¾	.06¾	.07¾
600 light green S.R.	.06¼	.07¼	.06¼	.07¼
600 dark green S.R.	.04¾	.05¾	.04¾	.05¾
Bright Stocks:				
190-200 D	.24	.25	.24	.25
150-160 D, 0-10	.22½		.22¼	
150-160 D, 10-25	.21¾		.21¾	
150-160 D, 25-40	.21¼		.21¼	
150-160 E	.20½		.20¼	
PENNSYLVANIA—				
600 S.R.	.15	.15¼	.15	.15¼
650 S.R.	.17¼	.17½	.17¼	.17½
600 Pennsylvania flash	.18¼	.18½	.18¼	.18½
650 D filtered	.23¼	.23½	.23¼	.23½
600 E filtered	.18¾	.19	.18¾	.19

Pennsylvania Grade bright stock:				
No. 8 color, 145-50 vis., at 210; 540-550 flash:				
10 pour test	.27½	.27¾	.27½	.27¾
15 pour test	.26	.26½	.26	.26½
25 pour test	.25	.25½	.25	.25½

Wax and Petrolatum

(Prices per pound)

	Sept. 19		Sept. 12	
OKLAHOMA (Group 3)—				
124-126 white crude scale	.03¼	.03½	.03¼	.03½
PENNSYLVANIA—				
122-124	.03⅜	.03½	.03⅜	.03¼
124-126	.03⅜	.03½	.03⅜	.03½
NEW YORK HARBOR—				
120-122 (a.m.p. basis)	.0350	.0360	.0350	
125-127	.0375	.0380	.0375	
130-132	.0420		.0420	
133-135	.0480		.0480	
135-137	.0505		.05	
Petrolatum in barrels in carload lots:				
Dark green	.01⅜		.02	.02¼
Amber	.02¼	.02⅝	.02¼	.02⅝
Extra amber	.02⅝		.02⅝	
Lily white	.06	.06¼	.06	.06¼
Snow white	.07	.07¼	.07	.07¼
Cream	.04¼	.05	.04¼	.05
CHICAGO (f.o.b. switching district)*—				
122-124	.0390	.0400	.0390	.0400
125-127	.0415	.0425	.0415	.0425
127-129	.0430	.0440	.0430	.0440
130-132	.0490	.0500	.0490	.0500
132-134	.0515	.0525	.0515	.0525

*Cents per pound on carlot orders in burlap bags of 225 lbs. approx.
Add 3° F. for a.m.p.

Export Prices

GASOLINE

GULF COAST—	Sept. 19	Sept. 12
U. S. Motor	.04⅞ .05	.05

60-62 400	.05	.05¼	.05¼	
61-63 390	.05½	.05¼	.05¼	
64-66 375	.05¼	.05½	.05¼	.05½
LOS ANGELES, CALIF.—				
U. S. Motor, 53-55 437 e.p.	.04½	.05	.04½	.05
U. S. Motor, 65 octane	.05	.05¼	.05	.05¼
U. S. Motor, 67 octane	.05½	.06	.05½	.06
U. S. Motor, 69 octane	.06¼	.06¾	.06¼	.06¾
58-60 400 endpoint gasoline	.05	.06	.05	.06
KEROSENE				
GULF COAST—				
41-43 prime white	.04⅜	.04½	.04¼	
41 water white	.04½		.04½	
LOS ANGELES, CALIF.—				
41-43 water white	.03¾	.04¼	.03¾	.04¼
LUBRICANTS				
NEW YORK (f.a.s. in bbls.)—				
600 Warren E	.25¾		.24½	
600 S.R. unfiltered	.22		.20¾	
650 S.R. unfiltered	.24½		.22½	
600 flash S.R.	.25¼		.24	
630 flash S.R.	.30¼		.29	
Bright stock, No. 8 color	.32		.31	
Bright stock, No. 6½ color, dil.	.31		.30½	
NEUTRALS				
NEW YORK—Pale Engine Oil, Bulk (vis. at 100)—				
230-3¾	.13	.13½	.10¾	
180-3½	.12	.12½	.10½	
100-2½	.06		.06	
Red Engine Oil, Bulk (vis. at 100):				
300-6½	.09	.10	.10½	
250-6	.08¾	.09¼	.09½	
200-6	.08½	.08¾	.08¾	
PARAFFIN WAX (Fully Refined)				
NEW YORK (prices per pound)—				
123-125 a.m.p.	.03⅝	.03¾	.03½	.04
125-127 a.m.p.	.03¾	.03⅞	.03⅞	.04
130-132 a.m.p.	.04¼	.04⅝	.0440	.0450
133-135 a.m.p.	.04¾	.04⅞	.0495	.05
135-137 a.m.p.	.05	.05⅛	.05	.0520

Crude Oil Prices

Oklahoma, Kansas, North Central and East Central Texas

East Texas	$.99
Stratman, Kans. (Sept. 8, 1933)†	.97
Corsicana (heavy) (June 17, 1933)*	.30
Other fields	(See gravity table)

Note—In East Texas, effective September 8, 1933, Stanolind Crude Oil Purchasing Co., Humble Oil & Refining Co., Shell Petroleum Corp., Texas Co., Gulf Pipe Line Co., Tide Water Oil Co., Sinclair Prairie Oil Marketing Co., Magnolia Petroleum Co., Sun Oil Co., Panola Pipe Line Co. and Empire Oil & Refining Co.
*Magnolia Petroleum Co. †Eldorado Refining Co.

West Texas

Crane, Upton, Crockett, Howard, Glasscock, Mitchell, Ector, Winkler and and Pecos Counties, and Lea County, New Mexico (See note) ..... $.60
Toborg, Pecos County (June 20, 1933)* .25
Jones and Fisher Counties..See gravity table

Note—Effective September 8, 1933, by Humble Oil & Refining Co., Texas Co., Gulf Pipe Line Co., Shell Petroleum Corp., Magnolia Petroleum Co., and by Stanolind Oil & Gas Co. in Winkler County, Texas. Effective September 12, Magnolia Petroleum Co., in Winkler County only, 65 cents.
*Shell Petroleum Corp.

Gulf Coast

Grade A and Grade B specifications discontinued by leading buyers..... (See gravity table)

Tomball (See note)*	$1.05
Livingston (Sept. 8)	.90
Greta (Sept. 8, 1933)†	.75
Refugio, light	(See gravity table)
Refugio, heavy (Sept. 8, 1933)‡	.75
Markham and High Island	(See Gulf Coast gravity table)
Conroe	(See Conroe gravity table)

Note—Tomball effective September 8, by Humble Oil & Refining Co. and Magnolia Petroleum Co.
*Greta posted by Texas Co. †Shell Petroleum Corp. ‡Refugio heavy, by Humble Oil & Refining Co.

South Central and Southwest Texas

(See note below table)

Darst Creek	$.77
Mirando	.70
Luling (Aug. 25, 1933)	.65
Pettus	.95
Salt Flat	.77
Lytton Springs (Sept. 8, 1933)	.85
Duval County (Sept. 8, 1933)	.70
Saxet	.75

Note—Effective on September 8 by Humble Oil & Refining Co. in Darst Creek, Mirando, Pettus, Salt Flat and Saxet. Effective September 8 in Darst Creek by Gulf Pipe Line Co. and Texas Co. Magnolia Petroleum Co., effective September 8, posted 74 cents in Darst Creek, but on September 13 posted 77 cents. Effective in Mirando September 8 by Magnolia Petroleum Co. Effective in Pettus and Salt Flat on September 8 by Humble Oil & Refining Co. and Gulf Pipe Line Co. Luling and Lytton Springs, by Magnolia Petroleum Co. Duval County by Texas Co.; Saxet, effective September 8 by the Humble Oil & Refining Co. and Texas Co.

North Louisiana and Arkansas

Smackover, Ark. (all grades)	$.60
Urania, La. (Sept. 11, 1933)	.65
Nevada, Ark. (Sept. 8, 1933)	.59
East El Dorado (Sept. 8, 1933)	.60
Other fields	(See gravity table)

Note—Smackover: Effective September 8, 1933, Texas Co. and Magnolia Petroleum Co., Standard of Louisiana, Louisiana Oil Refining Corp., Gulf Refining Co. Effective August 26, Phillips Petroleum Co., 35 cents. East El Dorado posted by Magnolia Petroleum Co. and Gulf Refining Co. Nevada by Standard Oil Co. of Louisiana, Urania posted by H. L. Hunt, Inc., and Louisiana Oil Refining Co.

Eastern States

SOUTH PENN OIL CO.
(Effective September 6, 1933)
Pennsylvania Grade Oil in National Transit Lines (Bradford Field) $2.35

(Continued on Page 31)

Crude Oil Gravity Table

Degrees in gravity—	1 Oklahoma and Kansas	2 North Texas, Central Texas and East Central Texas	3 North Louisiana and Arkansas	4 Gray County, Texas	5 Carson, Hutchinson and Moore Counties, Texas	6 Conroe, Texas	7 Salt Creek, Wyoming	8 Gulf Coast, Texas-Louisiana	9 Gulf Coast, Texas-Louisiana	10 Caddo, Louisiana	11 Sabine-DeSoto, Louisiana	12 Homer, Louisiana	13 Sarepta-Carterville, Louisiana	14 El Dorado, Arkansas	15 Haynesville, Louisiana	16 Miller County, Arkansas
Below 20	....	....	....	....	....	....	....	$.69	$.69	....	....	....	....	....	....	....
20-20.9	....	....	....	....	....	....	....	.71	.71	....	....	....	....	....	....	....
21-21.9	....	....	....	....	....	....	....	.73	.73	....	....	....	....	....	....	....
22-22.9	....	....	....	....	....	....	....	.75	.75	....	....	....	....	....	....	....
23-23.9	....	....	....	....	....	....	....	.77	.77	....	....	....	....	....	....	....
24-24.9	....	....	....	....	....	....	....	.79	.79	....	....	....	....	....	....	....
Below 25	*$.65	....	....	....	....	....	....	....	....	$.55	$.62	$.61	$.65	$.67	$.67	$.61
25-25.9	*.67	....	....	....	....	....	....	.81	.81	.57	64	.63	.67	.69	.69	.63
26-26.9	*.69	....	....	....	....	....	....	.83	.83	.59	.66	.65	.69	.71	.61	.65
27-27.9	*.71	....	....	....	....	....	....	.85	.85	.61	.68	.67	71	.73	.63	.67
28-28.9	*.73	....	....	....	....	....	....	.87	.87	.63	.70	.69	.73	.75	.65	.69
Below 29	.73	$.68	$.68	....	....	....	$.73	....	....	....	....	....	....	....	....	....
29-29.9	.75	.70	.70	....	....	....	.75	.89	.89	.65	.72	.71	.75	.77	.67	.61
30-30.9	.77	.72	.72	....	....	....	.77	.91	.91	.67	.74	.73	.77	.79	.69	.63
31-31.9	.79	.74	.74	....	....	....	.79	.93	.93	.69	.76	.75	.79	.81	.71	.65
32-32.9	.81	.76	.76	....	....	....	.81	.95	.93	.71	.78	.77	.81	.83	.73	.67
33-33.9	.83	.78	.78	....	....	....	.83	.97	.94	.73	.80	.79	.83	.85	.75	.69
34-34.9	.85	.80	.80	....	....	....	.85	.99	.95	.75	.82	.81	.85	.87	.77	.71
Below 35	....	....	....	$.64	$.59	....	....	....	....	....	....	....	....	....	....	....
35-35.9	.87	.82	.82	.66	.61	$.99	.87	....	.96	.77	.84	.83	.87	.89	.79	.73
36-36.9	.89	.84	.84	.68	.63	1.01	.89	....	.97	.79	.86	.85	.89	.91	.81	.75
37-37.9	.91	.86	.86	.70	.65	1.03	.91	....	.98	.81	.88	.87	.91	.93	.83	.77
38-38.9	.93	.88	.88	.72	.67	1.05	.93	....	.99	.83	.90	.89	.93	.95	.85	.79
39-39.9	.95	.90	.90	.74	.69	1.07	.95	1.00	.99	.85	.92	.91	.95	.97	.87	.81
40 and over	.97	.92	.92	.76	.71	1.09	.97	1.01	1.01	.87	.94	.93	.97	.99	.89	.83

*The following companies, purchasing crude oil in Kansas or Oklahoma, or both, begin their price schedules: Below 25 degrees, 50 cents; 25-25.9 degrees, 52 cents, with 2 cents added for each degree upward to 40 and over at 62 cents: Carter Oil Co., Magnolia Petroleum Co., Pure Oil Co., Rock Island Refining Co., Shell Petroleum Corp., Sinclair Prairie Oil Marketing Co., Skelly Oil Co. All others begin their schedule at below 29 degrees, 55 cents, excepting Philtex Oil Co. which begins with below 31 degrees at 64 cents.

Column 1—Effective September 8, Stanolind Crude Oil Purchasing Co. in Kansas and Oklahoma; Anderson & Prichard, Inc., in Oklahoma; Barnsdall Refineries, Inc., in Oklahoma; Bell Oil & Gas Co. in Oklahoma; Carter Oil Co. in Oklahoma and Kansas; Deep Rock Oil Co. in Oklahoma; Derby Oil Co. in Kansas; Globe Refining Co. in Oklahoma; Golden Rule Refining Co. in Kansas; Gypsy Oil Co. in Oklahoma and Kansas; Kanotex Refining Co. in Kansas; Magnolia Petroleum Co. in Oklahoma; Mid-Continent Petroleum Corp. in Oklahoma; National Refining Co. in Kansas and Oklahoma; Shell Petroleum Corp. in Kansas and Oklahoma; Sinclair Prairie Oil Marketing Co. in Kansas and Oklahoma; The Texas Co. in Oklahoma; Tide Water Oil Co. in Oklahoma; Vickers Refining Co. in Kansas. Effective September 9, Continental Oil Co. in Kansas and Oklahoma; Empire Pipe Line Co. in Oklahoma and Kansas; Philtex Oil Co. in Kansas and Oklahoma; Pure Oil Co. in Oklahoma; Skelly Oil Co. in Kansas and White Eagle Oil Corp. in Kansas.

Column 2—Effective September 8, Stanolind Crude Oil Purchasing Co., Humble Oil & Refining Co., Sinclair Prairie Oil Marketing Co. The Texas Co., Gulf Pipe Line Co., Magnolia Petroleum Co., Bell Oil & Gas Co. Effective September 9, Continental Oil Co. Effective September 9, in the Van Pool in Van Zandt Field, Pure Oil Co. posted same prices as in Oklahoma beginning with below 29 degrees, 75 cents, with 2 cents added for each degree up to 40 and over at 97 cents.

Column 3—Effective September 8, The Texas Co., Magnolia Petroleum Co., Gulf Refining Co. Effective September 8, Stanolind Oil & Gas Co. in Pine Island in Louisiana and Marion County, Texas, below 35 degrees, 65 cents, with 2 cents added for each degree up to 40 and over at 87 cents. For Stanolind Oil Co. of Louisiana prices see Columns 10 to 16 inclusive.

Column 4—Effective September 8, Humble Oil & Refining Co., Gulf Pipe Line Co., Sinclair Prairie Oil Marketing Co., Wilcox Oil & Gas Co. Effective September 9, Philtex Oil Co., below 31 degrees, 61 cents, with 2 cents added for each degree up to 40 and over at 81 cents. Magnolia Petroleum Co. on September 18, but retroactive to September 8 posted as follows: Below 35 degrees, 69 cents; 35-35.9 degrees, 71 cents, with 2 cents added for each degree up to 40 and above at 81 cents. Humble Oil & Refining Co. met these prices also retroactive to September 8, and the Texas Co. met the prices but effective on September 18.

Column 5—Effective September 8, Humble Oil & Refining Co., Gulf Pipe Line Co., The Texas Co., Magnolia Petroleum Co., Wilcox Oil & Gas Co. Effective September 9, Continental Oil Co. Effective September 9, Philtex posted below 31 degrees, 51 cents, with 2 cents added for each degree upward to 40 degrees and over at 71 cents.

Column 6—Effective September 8, Humble Oil & Refining Co., The Texas Co. and Tide Water Oil Co.

Column 7—Effective September 8, Stanolind Oil & Gas Co.

Column 8—Effective September 8, Humble Oil & Refining Co., Gulf Pipe Line Co., Pure Oil Co., Sinclair Prairie Oil Marketing Co. Effective September 8, Sun Oil Co. posted below 29 degrees, 73 cents, with 2 cents added for each degree up to 40 and over at $1.09. Effective September 13, Magnolia Petroleum Co. posted Lockport, below 20 degrees, 69 cents, with 2 cents added for each degree up to 34 and over at 99 cents; Iowa and Cameron Meadows, La., below 20 degrees, 59 cents, 2 cents added for each degree up to 34 and above at 89 cents.

Column 9—The Texas Co.

Columns 10, 11, 12, 13, 14, 15 and 16—Effective September 8, Standard Oil Co. of Louisiana and Louisiana Oil Refining Co.

(California Crude Oil Prices on Page 31)

TANK WAGON MARKETS

Quotations for gasoline and kerosene in United States, as furnished by the larger marketing concerns, include taxes

September 19, 1933

Taxes

The gasoline quotations given in the following tables include the 1½-cent Federal tax effective June 17, 1933, as well as state, county and city taxes. The gasoline quoted is the regular or standard grade. In most marketing areas a third or competitive grade is available at 1 or more cents per gallon under the service station price for the regular grade. Ethyl Gasolines are sold 2 cents above the service station price for the regular grade.

Southern District

STANDARD OIL CO. OF KENTUCKY

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Atlanta, Ga.	23.0	23.0	7.5	19.0
Augusta	23.0	23.0	7.5	13.0
Macon	23.0	23.0	7.5	13.0
Savannah	23.0	23.0	7.5	14.0
Birm'ham, Ala.	25.0	25.0	8.5	13.0
Mobile	23.0	23.0	8.5	10.0
Montgomery	26.0	26.0	9.5	14.9
Jackson, Miss.	23.0	23.0	7.5	11.0
Vicksburg	21.0	21.0	7.5	11.0
Jack'ville, Fla.	23.0	23.0	8.5	12.5
Miami	23.0	23.0	8.5	13.5
Pensacola	23.0	23.0	8.5	13.5
Tampa	23.0	23.0	8.5	12.5
Lexington, Ky.	22.0	22.0	6.5	19.0
Covington	21.0	21.0	6.5	11.5
Louisville	20.0	20.0	6.5	10.0
Paducah	22.0	22.0	6.5	9.0

In addition to the state tax of 4 cents on gasoline, Montgomery has city and county tax of 2½ cents on gasoline and one-half cent on kerosene. Kerosene prices in Georgia and Mississippi include 1-cent state tax. In Florida, an inspection fee of 0.125 cent; in Alabama, an inspection fee of one-half cent on kerosene and one-fortieth cent on gasoline. To Pensacola, Mobile and Birmingham state taxes on gasoline add 1-cent city tax.

Southwestern District

MAGNOLIA PETROLEUM CO.

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Dallas, Tex.	16.5	19.5	5.5	8.5
Fort Worth	16.5	19.5	5.5	8.5
Houston	16.5	19.5	5.5	8.5
San Antonio	17.0	20.0	5.5	8.5
El Paso	17.0	20.0	5.5	8.5
Texarkana	*19.5	19.5	5.5	10.0
Muskogee	17.0	19.5	5.5	9.5
Okla. City	17.0	19.5	5.5	8.5
Tulsa	17.0	19.5	5.5	8.5
Ft. Smith Ark.	*17.9	17.9	5.5	9.0
Little Rock	*20.4	20.4	7.5	9.0

*Less 3 cents to dealers.

Standard Oil Co. (Indiana)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Chicago	17.8	17.8	4.5	9.7
Decatur, Ill.	18.2	18.2	4.5	10.2
E. St. Louis	17.5	17.5	4.5	9.5
Joliet	18.2	18.2	4.5	10.2
Peoria	18.2	18.2	4.5	10.2
Quincy	15.8	15.8	4.5	10.0
Davenport, Ia.	18.1	18.1	4.5	10.1
Des Moines	18.1	18.1	4.5	9.0
Mason City	18.1	18.1	4.5	10.1
Sioux City	17.7	17.7	4.5	9.7
Duluth, Minn.	18.7	18.7	4.5	10.4
Mankato	18.3	18.3	4.5	10.9
Minneapolis	18.4	18.4	4.5	10.4
LaCrosse, Wis.	19.8	19.8	5.5	10.9
Green Bay	19.2	19.2	5.5	10.2
Milwaukee	18.7	18.7	5.5	9.7
Madison	18.9	18.9	5.5	9.9
Detroit, Mich.	18.0	18.0	4.5	10.5
Grand Rapids	18.2	18.2	4.5	10.2
Saginaw	18.5	18.5	4.5	10.5
Evansville, Ind.	19.0	17.5	5.5	10.0
Indianapolis	19.2	19.2	5.5	10.2
South Bend	19.5	19.5	5.5	10.5
Fargo, N. Dak.	20.1	20.1	4.5	12.1
Huron, S. Dak.	20.4	20.4	5.5	11.4
Sioux Falls	19.9	19.9	5.5	10.9
K. C., Mo.*	17.2	17.2	4.5	7.5
Springfield*	17.2	17.1	4.5	9.1
St. Louis	16.2	16.2	4.0	8.7
St. Joseph*	16.8	16.8	4.5	8.8
Wichita, Kans.	16.1	16.1	5.5	8.1
Bartlesville, Ok.	16.5	17.5	5.5	9.5

*State tax 2 cents, 1-cent city tax and 1-cent Federal tax.

Effective June 1, 1933—Discounts off tank wagon price to consumers on 500 gallons or more per month in territory outside of Chicago metropolitan area: 2 cents on Ethyl and Red Crown gasolines, and 1 cent on Stanolind gasoline. One-half cent additional discount in Chicago division.

Effective July 1, 1933—Discounts on resellers authorized agent's agreement made off the service station price throughout the territory as follows: 3.5 cents on Red Crown Ethyl and Standard Red Crown gasolines and 1.5 cents on Stanolind gasoline. Half of reduction from normal service station price shall be absorbed by resellers up to maximum of 1 cent on all grades.

Stanolex Furnace Oil in Chicago

Effective September 13, 1933, prices f.o.b. Chicago, tank wagon prices: No. 1 (36-40 lt. stw. zero), under 100 gallons, 8¼ cents; No. 2 (30-34 stw zero), 7¾ cents; No. 3 (22-26 zero), 7¼ cents; No. 4 under 300 gallons (12-16 zero), 6¼ cents; viscosity of No. 4, 90-115 at 100° F.; No. 5 under 300 gallons, 6 cents; for deliveries of 100 gallons or more deduct 1 cent.

Naphtha

	Tank-Wagon	Car
Oleum spirits	11.9	7.69
V.M.&P. naphtha	15.9	8.44
Cleaners' naphtha	15.0	8.94
Stanisol	15.0	8.19

Prices f.o.b. Chicago, September 13, 1933. Each of above prices subject to discount of 1 cent per gallon for 150-gallon lots if covered by contracts.

Atlantic Coast District

STANDARD OIL CO. (NEW JERSEY)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Atl'tic City, N.J.	19.2	18.7	4.5	9.0
Newark	18.5	18.0	4.5	8.5
Annapolis, Md.	19.8	19.3	5.5	9.0
Baltimore	19.3	18.8	5.5	8.0
Cumberland	20.8	20.3	5.5	11.7
Wash'g'n, D. C.	17.5	17.0	3.5	10.0
Danville, Va.	21.9	21.4	6.5	10.9
Norfolk	20.4	19.9	6.5	10.3
Petersburg	21.2	20.7	6.5	10.7
Richmond	20.8	20.3	6.5	10.7
Roanoke	22.0	21.5	6.5	11.0
Charls'n, W.Va.	20.2	19.7	5.5	11.6
Parkersburg	19.5	19.0	5.5	10.2
Wheeling	20.2	19.7	5.5	11.2
Charlotte, N. C.	23.6	23.1	7.5	12.5
Hickory	23.9	23.4	7.5	12.7
Mt. Airy	23.9	23.4	7.5	12.8
Raleigh	23.4	23.9	7.5	12.3
Salisbury	23.7	23.2	7.5	12.6
Charleston, S.C.	21.4	20.9	7.5	10.2
Columbia	23.2	22.7	7.5	12.2
Spartanburg	23.6	23.1	7.5	12.5

Note—Dealer contracts for gasoline are written at 2½ cents over the posted tank car price. Kerosene 1 cent off tank wagon for 25 gallons or more under contract except New Jersey and Baltimore, Md.

Central South District

STANDARD OIL CO. OF LOUISIANA

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
N. Orleans, La.	20.8	20.3	*7.5	†11.0
Baton Rouge	20.0	19.5	6.5	†11.0
Alexandria	20.9	20.4	*7.5	†11.0
Lafayette	21.1	20.6	*7.5	†11.0
Lake Charles	21.0	20.5	*7.5	†11.0
Shreveport	18.8	18.3	6.5	†11.0
Knoxville, Tenn.	24.2	23.7	8.5	12.5
Memphis	22.6	22.1	8.5	10.0
Chattanooga	23.9	23.4	8.5	10.0
Nashville	23.5	23.0	8.5	10.0
Bristol	24.1	24.6	8.5	13.0

*Includes city tax of 1 cent. †Louisiana kerosene prices include 1-cent state tax. New Orleans kerosene price also includes 1-cent city tax.

Effective June 2, 1933, station prices fixed at 7 cents above basic tank car price at key refining points in territory. Commercial consumers for tank wagon delivery pay following amounts over tank car price basis yearly deliveries:

1,000 to 75,000 gallons	2.5
75,000 to 300,000 gallons	1.5
Over 300,000 gallons	1.0

Pacific Coast Territory

STANDARD OIL CO. OF CALIFORNIA*

	Gasoline			Kero.
	Tank truck†	Posted retail	Incl'ds tax	tank wagon
San Francisco	17.5	20.5	4.5	12.5
Los Angeles	17.0	20.0	4.5	12.5
Fresno, Calif.	18.5	21.5	4.5	14.0
Phoenix, Ariz.	18.5	21.5	6.5	†16.0
Reno, Nev.	21.0	24.0	5.5	15.5
Portland, Ore.	20.0	23.0	5.5	13.5
Seattle, Wash.	20.0	23.0	6.5	13.5
Spokane	23.0	26.0	6.5	18.0
Tacoma	20.0	23.0	6.5	13.5

*Retail prices posted by Standard Stations, Inc., a subsidiary.

†Above prices are at company's plant or depots as company does not operate stations. A 4-cent per gallon discount is given dealers and customers taking tank wagon lots except in Phoenix where the discount is 1 cent. ‡Includes 5-cent state tax.

New York and Part of New England District

STANDARD OIL CO. OF NEW YORK

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Albany, N. Y.	17.1	18.1	4.5	9.5
New York	17.0	18.0	4.5	8.5
Buffalo	17.8	18.8	4.5	9.5
Rochester	17.8	18.8	4.5	9.5
Syracuse	17.6	18.6	4.5	9.0
Boston, Mass.	17.0	18.0	4.5	8.5
Augusta, Me.	18.5	19.5	5.5	9.0
Manch'tr, N. H.	19.2	20.2	8.5	8.5
Burlington, Vt.	19.8	20.8	5.5	9.0

Pennsylvania-Delaware and Part of New England

ATLANTIC REFINING CO.

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Philadelphia, Pa.	16 5	17.0	4 5	9.0
Pittsburgh	17.0	18 0	4 5	9.0
Allentown	17.0	18.0	4.5	9.0
Erie	17 0	18.0	4 5	9 0
Scranton	17 0	18 0	4 5	9 0
Altoona	17 0	18.0	4.5	9.0
Dover, Del.	17.0	18.0	4 5	9 0
Wilmington	17.0	18 0	4 5	9 0
Boston, Mass.	17 0	18 0	4.5	8.5
Springfield	17.6	18 6	4 5	8 5
Worcester	17.5	18.5	4.5	8 5
Hartford, Conn.	16 4	17 4	3.5	8.5
New Haven	16 2	17 2	3 5	8 5
Providence, R.I.	16.0	17.0	3.5	8.5

Rocky Mountain District

CONTINENTAL OIL CO.

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Denver, Colo.	19.0	21.5	5.5	11.5
Pueblo	19 0	21 5	5 5	13 0
Grand Juctn.	21 0	23 5	5.5	13.0
Casper, Wyo.	19.5	22 0	5 5	10.5
Cheyenne	18.0	20.5	5.5	12 0
Butte, Mont.	21 0	23 5	5 5	17 5
Billings	23.0	25.5	6.5	16 0
Helena	24.0	26.5	6 5	17 5
Great Falls	24.0	26 5	6 5	17 5
Salt Lake, Utah	22 0	24.5	5 5	16 0
Boise, Idaho	24 0	26 5	6.5	18.0
Twin Falls	24 0	26 5	6 5	18.0
Albu'que, N. M.	19.5	22 5	*7.5	13.0

*One-cent city tax.

Effective June 1, 1933, dealers and lease and license accounts will receive 2½ cents discount on regular gasoline in Montana, Colorado, Wyoming, Utah and Idaho.

Ohio

STANDARD OIL CO. OF OHIO

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Ohio points	17.0	18.0	5.5	*13.5

*Includes state tax of 1 cent, effective July 22.

Canada*

IMPERIAL OIL, LTD.
Imperial 3-Star Gasoline

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Hamilton, Ont.†	26.5	27 5	6 0	17 5
Toronto, Ont.†	26 5	27.5	6.0	17.5
Brandon, Man.*	31 0	34 5	7.0	22 5
Winnipeg, Man.	28.0	31.5	7 0	19.5
Regina, Sask.	31 0	35 0	6.0	22.5
Saskatoon, Sask.	33.0	37.0	6 0	25 5
Edmonton, Alta.	31 5	35.5	6 0	24 5
Calgary, Alta.	28.0	32 0	6.0	21.0
Vanc'ver, B. C.†	30.0	34.5	6 0	24 0
Montreal, Que.	24 0	27 0	6.0	17.0
St. Johns, N. B.	26 5	30 5	7.0	22 5
Halifax, N. S.	25.5	29.5	7.0	22 5

*Imperial gallon used in Canada. †Dealer discount posted tank wagon on gasoline in Ontario and British Columbia subject to dealer's discount of 2 cents per gallon.

Nebraska

STANDARD OIL CO. OF NEBRASKA

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Omaha	18.8	19.3	5.5	10.8
McCook	17 5	17.5	5 5	10.0
Norfolk	19.3	20.3	6 5	11 3
N. Platte	20.3	21.3	5.5	10.5
Scottsbluff	19.8	19.8	5.5	11.0

Note: Discount to dealers and AAA commissions. From service station price: Red Crown Ethyl and Standard Red Crown gasoline, 3 cents. Reliance (third grade) gasoline, 2 cents. Rentals under lease and agents agreement, one-half cent per gallon additional.

Discount to consumers under contracts (large consumers under contracts and governmental units): On tank wagon deliveries of gasoline on monthly purchases of 500 gallons, or yearly purchases of 6,000 gallons, from the service station price: Red Crown Ethyl and Standard Red Crown Gasoline, 2 cents per gallon; Reliance (third brand) gasoline, 1 cent per gallon.

TANK WAGON CHANGES

(Regular grade gasoline and kerosene)

Magnolia Petroleum Co., September 8, advanced the tank wagon and service station prices of gasoline 1 cent in Fort Smith and Little Rock and 1½ cents in Texarkana. September 9, it advanced the tank wagon and service station prices of gasoline 1 cent in Dallas, Fort Worth, Houston and San Antonio. September 11, it advanced the tank wagon price of gasoline 1 cent in Muskogee and Oklahoma City and 2 cents in Tulsa. On the same date it advanced the service station prices of gasoline 1½ cents in Muskogee, Oklahoma City and Tulsa. September 14, it advanced the tank wagon price of kerosene 1 cent in Dallas, Fort Worth and Oklahoma City; one-half cent in Houston, El Paso and San Antonio; 1½ cents in Muskogee and Tulsa. On the same date it reduced the kerosene price 1 cent in Texarkana, Fort Smith and Little Rock, at the same time removing the discount of 2 cents to dealers.

Standard Oil Co. (Indiana) September 13 advanced the tank wagon price of kerosene 1 cent throughout its territory. On the same date it reduced the tank wagon price of gasoline 1½ cents in Evansville, Ind.

Standard Oil Co. of California September 11 reduced the tank wagon price of gasoline one-half cent in Fresno, San Francisco, Los Angeles and Phoenix, and reduced the price 1 cent in Portland, Seattle, Tacoma and Spokane. On the same date it increased the service station price of gasoline one-half cent in Reno and reduced the service station price one-half cent in Portland, Seattle, Tacoma and Spokane.

The Atlantic Refining Co. September 2 reduced the tank wagon and service station prices of gasoline 1 cent in Massachusetts, Connecticut and Rhode Island. September 11 it advanced the tank wagon and service station prices of gasoline one-half cent in Pittsburgh, Scranton, Allentown, Altoona and Erie, Pa., and in Delaware. September 12 it reduced the tank wagon and service station prices of gasoline one-half cent in Massachusetts, Rhode Island and Connecticut. On the same date it advanced the tank wagon price of kerosene one-half cent in the same three states.

Standard Oil Co. of Louisiana, September 8, advanced tank wagon and service station prices on gasoline one-half cent throughout Louisiana and throughout Tennessee except in Bristol. On

(Continued on Page 31)

CRUDE OIL PRICE CHANGES

Effective September 13 Magnolia Petroleum Co. posted Lockport and Cameron Meadows, in Gulf Coastal Louisiana, as follows: Below 20 degrees, 69 cents, differential of 2 cents beginning with 20-20.9 degrees at 71 cents and ending with 34 degrees and over at 99 cents.

Effective September 13, Magnolia Petroleum Co. posted Winkler County, Texas, crude at 65 cents per barrel; Darst Creek, Texas, 77 cents per barrel.

Announced on September 18 but made retroactive to September 8, Magnolia Petroleum Co. and Humble Oil & Refining Co. posted Gray County, Texas, below 35 gravity, 69 cents; 35-35.9 degrees, 71 cents, with 2 cents added for each degree upward to 40 and over at 81 cents. The Texas Co. met these Gray County prices, but made the postings effective on September 18.

Magnolia Petroleum Co., effective September 13, posted Iowa, in Coastal Louisiana, below 20 gravity, 59 cents; 20-20.9 degrees, 61 cents, with 2 cents added for each degree upward to 34 degrees and over at 89 cents.

The crude prices for the Pennsylvania grade fields in this issue are revised and corrected.

CIRCULATION 75,000

BIG NEWS

Published by Sinclair Refining Company (Inc.), 45 Nassau Street, New York, N. Y.

NRA WE DO OUR PART

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NEWS FOR SALES DEPARTMENTS

Wide Efforts Are Made to Enforce Gasoline Tax Law

Secretary of State Fitzgerald recently announced that rigid enforcement of Michigan's gasoline tax law had reduced refund payments in 1932 to $1,317,063 against $2,073,769 in 1931. In the first seven months of 1933 refunds were cut to $417,857 as compared with $746,340 in the corresponding period of 1932. Pennsylvania's gasoline tax patrol along the Ohio border checked tax payments on 1,164,120 gallons in May. Missouri's 2-cent gasoline tax produced $4,335 more revenue in the first five months of 1933 than in the corresponding period of 1932.

Georgia collected taxes of $14,446 on kerosene in May. Gasoline tax law enforcement in New Jersey resulted in an increase in collections during the first half of 1933, although fewer vehicles were registered. Nebraska officials are trying to stop tank wagons from filling automobile fuel tanks along the highways. Under Wisconsin's amended gasoline tax law, funds collected by wholesalers are regarded as trust funds payable to the State. Failure to turn them over makes the holder liable to loss of license and action under the criminal law.

Oak Park, Ill., is trying to abolish the "wheel" tax, which costs its motorists $100,000 a year. Kentucky's highway patrol has been instructed not only to prevent gasoline tax evasion, but to help motorists in distress. Illinois officials say they have brought gasoline smuggling over the border "virtually to a standstill." St. Louis collected $19,243 from the city gasoline tax in the second quarter.

Marketers of Four States Will Meet in Kansas City

The oil marketers of Missouri, Iowa, Kansas and Nebraska will hold their seventh annual four-state convention in Kansas City, Mo., October 17, 18 and 19, with all sessions held in the Hotel President.

The list of speakers for the business session has not been completed but George Allee, secretary of the Missouri Oil Men's Association, states that it will include a man from Washington who is an authority on the oil code and who will be able to interpret it for oil marketers and answer questions.

The Oil Men's Club of Kansas City again will be hosts to the convention delegates and elaborate plans are under way for entertainment. The 1932 convention was postponed owing to economic conditions. This year an unusually large attendance is expected as there are many vital questions before oil marketers. Besides the plans for entertainment by the oil men in Kansas City, a ladies' entertainment committee will see that the visiting ladies have an attractive program.

QUEBEC'S GASOLINE POLICY

QUEBEC, Quebec, Sept. 18.—Reports that the Quebec government was planning some measure of provincial gasoline control or monopoly are officially denied by Premier Taschereau, who says also that no increase in gasoline taxes is contemplated.

MOTORISTS PAY HEAVILY

Motorists paid 20 per cent, or $173,967,659.69, of the $873,047,820.19 in miscellaneous taxes collected by the Federal Government in the year ending June 30, 1933. Their contributions represent the largest income from any source in the miscellaneous group except for tobacco, which yielded revenue of $402,739,059.25, or 46.13 per cent.

CHANGES IN CODE COMMITTEE

The following personnel changes in American Petroleum Institute code committees have been announced by W. T. Holliday, chairman of the marketing division and vice president of the Institute: Massachusetts: A. S. Cooper, Richfield Oil Corp. of Massachusetts, Providence, R. I., appointed to succeed J. W. Butler, resigned. Southern Illinois: W. E. Murphy, Gulf Refining Co., 1449 West Wood, Decatur, Ill., and E. J. Musick, Tide Water Oil Co., 3021 North Spring Avenue, St. Louis, newly appointed members. Maine: R. H. Tyler, Mexican Petroleum Corp., 464 Ridge Ave., Cambridge, Mass., succeeds J. D. Bartlett.

Oil Executives Summoned to Testify in Ouster Suit

AUSTIN, Tex., Sept. 18.—Attorney General James V. Allred of Texas says subpoenas have been issued for the attendance of the following oil men at the trial, scheduled for October 2, of his antitrust penalty and ouster suit against 15 oil corporations and two marketing associations, for adherence to the oil men's code for retail business, the suit asking maximum penalties of $17,850,000.

W. C. Teagle, president; W. S. Farish, chairman of the board, and Edwin S. Hall, Standard Oil Co., New York; E. S. Karstedt, vice president, and E. T. Wilson, chairman of the board, Continental Oil Co., Denver, Colo.; Harry F. Sinclair, J. E. Dyer, Dick Beard and W. T. Dinkins, Sinclair Refining Co., New York; P. M. Miskell, Cities Service Oil Co., Tulsa; Harry D. Frueauff, of H. L. Doherty Co., New York; G. R. Nutty, president, Gulf Refining Co., Pittsburgh, Pa.; W. L. Mellon, president, Gulf Oil Corp., Pittsburgh, Pa.; W. V. Hartmann, vice president, Gulf Refining Co., Pittsburgh, Pa.; Herbert L. Pratt, chairman of the board, and Charles E. Arnott, president, Socony-Vacuum Corp., New York; K. R. Kingsbury, president, H. D. Collier, director, Standard Oil Co. of California, San Francisco, Calif.; J. C. Van Eck, Shell Union Corp., New York; N. F. George, Shell Union Oil Corp.

Exports of Oil Products From Canada Show Upturn

QUEBEC, Quebec, Sept. 18.—Exports of petroleum products from Canada in July totaled $231,004, an increase of approximately $130,000 over the same month of 1932. Newfoundland was the largest consumer, taking coal oil to the value of $43,470; gasoline, $137,440 and mineral oil $6,136. St. Pierre and Miquelon took smaller quantities.

Following are the totals for the 12-month periods ending July, 1933, and July, 1932:

	1933	1932
Coal oil	$173,584	$92,933
Gasoline	616,787	641,231
Mineral oil	255,018	369,761
Mineral wax	5,260	83,721
Crude oil	77,323	357,571

OREGON'S GASOLINE SALES

PORTLAND, Ore., Sept. 18.—Taxable sales of gasoline during July in Oregon were 14,305,723 gallons, against 15,209,612 in June and 13,706,895 in July last year. Sales of leading companies were: Associated Oil, 1,301,981 gallons; General Petroleum, 1,182,343; Gilmore Oil, 631,749; Richfield, 1,412,525; Shell, 3,212,053; Signal Oil 466,501; Standard of California, 3,025,238; Sunset Pacific, 344,326; Texas Co., 958,004; Union of California, 1,519,197; Fletcher Oil, 249,390; all others, 102,415.

W. Gould Is President of Shell Market Subsidiary

NEW YORK, Sept. 18.—At a meeting of the board of directors of the Shell Eastern Petroleum Products, Inc., W. Gould was elected president of the company to succeed A. F. Carter, who resigned last week. Mr. Gould, who has been executive vice president of the company, assumes his new duties immediately. The Shell Eastern is the marketing

W. GOULD
President, Shell Eastern Petroleum Products, Inc.

subsidiary of the Shell Union Oil Corp. and has large distribution in eastern states largely built up over the past five years.

Mr. Gould has been connected in official capacities with the operations of the Dutch Shell subsidiaries for several years. Before joining the Shell Eastern corporation he served as a vice president of the Shell Oil Co. of California and also the Shell Petroleum Corp. with headquarters in St. Louis. Previously he had been engaged in producing and marketing work in the Far East. His foreign activities included work in Australia, New Zealand and Dutch East Indies.

Increased Use of Fuel Oil Brings Lowered Gas Rates

The Public Service Commission of New York has announced its approval of revisions of the gas schedules of the Long Island Lighting Co., the Nassau and Suffolk Lighting Co. and the Queens Borough Gas & Electric Co. Rates for gas used for house heating will be reduced and a new rate established for domestic heating by gas under yearly contracts.

In filling the lower rates the three companies said that they desired to put them into effect at the earliest possible date to meet the competition of fuel oil.

The reduced rates, it was estimated, would save customers of the three companies about $42,000 a year. Customers of the Long Island Lighting Co. will save about $15,000 annually; those of the Nassau and Suffolk Lighting Co. about $12,000, and those of the Queens Borough Gas & Electric Co. about $15,000, according to the commission's estimate. The three companies serve almost all of Nassau and Suffolk Counties.

TO DISCUSS SALES PROBLEMS

Practical problems encountered in the sale of motor fuels to the consuming public will have a prominent place in discussions before the Division of Marketing of the American Petroleum Institute in the annual sessions in Chicago at the Stevens Hotel, October 24-26. J. A. McNally, assistant secretary of the division, has announced that Bryan Houston, manager of the department of training of the Standard Oil Co. of Ohio, will present a paper on "Training Salesmen," and R. K. Davies, director of the Standard Oil Co. of California, San Francisco, will speak on "Should Automobile Specialties Be Sold at Gasoline Stations?"

Plans for Enlargement of Royalite Plant Announced

CHATHAM, Ontario, Sept. 18.—Announcement has been made by J. H. McLeod of Calgary, western production manager of Imperial Oil, Ltd., that the Royalite Oil Co. will start work this month on an important extension to its gasoline absorption plant in the Turner Valley Field. The extension, to cost around $50,000, will enable the plant to handle more than 100,000,000 feet of tail gas daily.

The present plant was completed early last May, but it did not come into full operation until June. Results of the processing of the tail gas, which is run through the plant after the major portion of the naphtha has been extracted by separators, proved much better than had been expected, the original plant getting an average recovery from the gas processed of 571 bbls. of naphtha a day.

Originally gas from Imperial subsidiaries was handled, but the extension will enable the company to take a prorated quantity of tail gas from independent producers.

Taxes Impose Big Load on Motor Vehicles in Canada

OTTAWA, Ontario, Sept. 18.—Estimates compiled by the Dominion Bureau of Statistics indicate that in 1932 motor vehicles in Canada cost their owners $56,700,000 in taxes, an average of $50 for every registered motor vehicle.

The Canadian provinces collected $21,126,271 for registration fees on vehicles and operators and another $27,083,316 in gasoline taxes. The Dominion took $4,508,471 in import duties and excise taxes. In addition there was the sale tax on cars sold, estimated at $2,500,000, and the import duty on gasoline, estimated at $1,500,000.

Motor vehicle registrations in Canada in 1932 totaled 1,114,503, including 945,564 passenger vehicles, 1,530 motor buses, 157,990 trucks and other commercial vehicles and 9,419 motorcycles. This was a decrease from the 1931 registration of 86,404 motor vehicles, or 7.2 per cent. Canada, with one motor vehicle to every 9.4 persons, ranked fourth among the nations, the United States leading with one vehicle for 5.1 persons.

REPEAL OF TAXES PREDICTED

WASHINGTON, D. C., Sept. 18.—Chairman Harrison of the Senate finance committee predicts that owing to revenues from wines and distilled liquors next year with the repeal of prohibition, taxes of $227,000,000 authorized in the Public Works Act will be repealed by presidential proclamation. They include the capital stock, dividend and gasoline

NATURAL GASOLINE MANUFACTURE

Important Tax Decision in Favor of Signal Oil

Upholding the contentions of the Signal Oil & Gas Co. of Los Angeles and reversing a prior decision of the U. S. Board of Tax Appeals, the U. S. Circuit Court of Appeals for the Ninth District, in San Francisco, rendered an opinion on September 6 which has checked the seven-year effort on the part of the U. S. Bureau of Internal Revenue to collect approximately $200,000 additional taxes from the Signal Oil & Gas Co., according to Sam B. Mosher, president and general manager.

The appeal of the Signal company to the U. S. Circuit Court is considered a test case as the principle of depletion involves many natural gas-gasoline companies throughout the United States. The income tax division had maintained that the Signal Gasoline Corp., a predecessor company, was not entitled to deductions on account of depletion that were taken by the taxpayer in computing its taxable income. Engineering features were involved regarding the method of producing gas and saving casinghead gasoline from the gas at the wells; also the type of ownership interest created by contracts for the gas, extending over the life of the wells.

The Circuit Court found that the Signal Gasoline Corp. had acquired more than 50 casinghead contracts in Signal Hill and Huntington Beach Fields in 1924, had erected gasoline plants, installed repressuring and vacuum systems, employed gas lift on the wells, had taken over gas wells that had ceased to produce oil commercially, and otherwise aided the production and recovery of oil, and had extracted casinghead gasoline and sold the gasoline and the dry gas. The company gave evidence to show that it had invested large sums of money in the contracts, plants and equipment, which investment was dependent upon the gas of the particular properties involved.

The court stated, in part: "By the contracts there was imposed upon the petitioner the obligation to enter upon the premises, erect and maintain equipment thereon, attach its equipment to the casinghead of the well, and exert forces which would bring the oil and gas up out of the ground.

"The petitioner paid very valuable consideration for these contracts, giving it the right to acquire the gas, and in addition expended a great deal of money in building and maintaining its plants and wet and dry gas lines, and its vacuum and gas pumps, needed to carry out its contracts and the practices customary in the casinghead gasoline business.

"There was considerable discussion in the briefs and upon the argument as to whether this established an interest in the land amounting to profit a prendre. There are some differences of opinion found in the authorities as to the proper application of the underlying principle of the right in question.

"The courts of some of the states have held rights as here involved to be a profit a prendre. ..

"Considered by themselves, the contracts may not specifically convey any title to gas in the ground, but the contracts confer upon petitioner the right to enter upon the land and connect its pipes directly with the oil wells, install meters, and petitioner is required to maintain vacuum on the oil wells. These provisions, together with the method of operation sanctioned by the parties whereby petitioner, by means of gas lifts, rod-less pumps, and the use of compressors

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Attempt to Fix Natural Gasoline Prices Would Prove Unusually Difficult

Those close to developments in Washington interpret the latest move of Secretary Ickes, oil administrator, as a step nearer to price fixing.

This move referred to above was the appointment of an advisory committee under Secretary Ickes composed largely of government officials who are familiar with all phases of oil production and marketing. It is also known that a complete report has been given him by the Planning and Co-ordination Committee of 15 which provides for a complete system of price fixing for all important products from the well to the consumer.

This advisory committee is composed of Nathan R. Margold, chairman; Charles Fahy, vice chairman, and Norman L. Meyers, secretary, all of the Interior Department. Other members of the board include Edward B. Swanson, chief of the petroleum economics division of the Bureau of Mines; Dr. John W. Frey, petroleum specialist in the Bureau of Foreign and Domestic Commerce; J. Elmer Thomas, technical advisor, and J. Howard Marshall, special assistant to the attorney general. This group includes men well qualified to digest the wealth of statistical data involved in controlling production and stocks, and if price fixing is resorted to, the close association with the attorney general's offices should make the matter of enforcement under the administrator unusually effective and speedy.

Difficulties Involved

Just what position natural gasoline will assume in the general program time alone can tell, but it seems feasible to point out a few of the difficulties involved in attempting to fix a price for it compared to refinery gasoline.

Of the 232,798,000 bbls. of total motor fuel produced in the United States during the first seven months of this year, which figure is the latest available, natural gasoline accounts for 19,078,000 bbls. or a little more than 8 per cent. Of this supply of natural gasoline, 12,635,000 bbls. or 66 per cent of it was purchased and blended at refineries and 3,162,000 bbls., or about 17 per cent, was sold to jobbers or exported. It should be said also that a very substantial share of the natural gasoline moving directly to jobbers and for export is of a quality suitable for use in automobile engines without blending with refinery gasoline. To fix a price for natural gasoline, it must be remembered that its quality varies by grades from that of a comparatively volatile material entirely unsuitable alone as a motor fuel, to a well stabilized product having properties fully equal to the average of the best grade of refinery gasoline.

Nor is the problem made very much simpler if our discussion is limited to the fixing of prices on any specific grade. If an attempt is made to establish a price for the 26-70 grade, the most popular one, it will have to vary almost with the weather. The refiner or the jobber who buys this grade of material knows it has a much higher actual value in winter than in summer. If any one of the low vapor pressure grades is taken as a basis for price fixing the same objection can be raised. The 11-pound grade would come closest to U. S. Motor gasoline and for that reason some might suggest that the problem of fixing a price for natural gasoline could be simplified by saying that 11-pound natural shall take the price established for U. S. Motor gasoline of the same octane rating. The balance of the grades would then take a price in proportion to their relative yields. The application of this idea in marketing has been tried without great success.

Natural gasoline manufacturers are well acquainted with the relative yields of the various grades from a given quantity of gas processed. For example, at any given period in the year it is easy to show on paper that when making 11-pound natural say, 2,000 gallons of it can be made from say, 1,000,000 feet of gas. If 15-pound material were made, 2,240 gallons could be recovered from that same volume of gas. The assumption follows that the 15-pound material should take a lower price. Actually, however, the 15-pound material is a better motor fuel under winter conditions in certain parts of the United States than the 11-pound. Both the seller and buyer would recognize the inconsistency of fixing a relative price.

Difference in Quality

In these two attempts of setting a price the difficulties involved have had to do with difference in quality. Equal difficulty would arise from the fact that the production of natural gasoline is incident to the production of crude oil or gas. A large production of natural may attend the development of a new field such as the Oklahoma City Field, or it may not result as in the case of the East Texas Field. A fixed price for natural gasoline would be too high or too low every time an important pool is developed.

The simpler way to control the price is to include natural gasoline along with crude oil as a basic source of oil supply. Then if agencies are established as regional committees under the oil administrator and these study the current total demand and see that this is just balanced by the total current supply, a true relationship in value will automatically exist at all times between crude, refinery gasoline and the various grades of natural gasoline and all will be advanced sufficiently high to bring reasonable and equitable profits to all branches of the oil industry.

In operation this will mean that the production of natural gasoline will be curtailed along with crude oil and refinery crude runs. It will also mean that the uneconomic units will find it just as difficult to carry on under the code as has been their lot during the past three years of low prices.

In curtailing the production of natural gasoline one fact should be recognized. Natural gasoline is a product recovered from gas and when used as a motor fuel assumes a higher role of usefulness than when burned for heat along with dry gas in competition with other cheap fuels. In this respect the recovery of natural gasoline in the field represents an important step in the conservation of our natural resources.

Approximately 20 per cent of the natural gasoline comes from gas to be distributed by public utilities. The need for natural gas in cities and in the industries varies with the season. So the resulting volume of gasoline produced from the wet gas going to these utilities is necessarily varied greatly by the season.

It seems feasible, therefore, that in the interests of conservation natural gasoline

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Winter Supply of Natural Gasoline to Be Indefinite

LOS ANGELES, Calif., Sept. 16.—Shipments of gasoline to the Atlantic Seaboard for domestic consumption are expected to continue at a normal rate for several months although there may be a shortage of natural gasoline. This possible shortage depends, however, on the policy of operators with respect to operating conditions at Ventura Avenue and Kettleman Hills and in other fields where gas production can be greatly stimulated by producing wells with a high gas-oil ratio. If operators in the Kettleman North Dome and Ventura Avenue Fields find it necessary to produce wells with high gas-oil ratios to meet the demand for gas during the winter there will be an abundance of natural gasoline but if the Central Proration Committee decides that operators in the Buttonwillow and Goleta gas fields are entitled to supply part of the demand for gas the production of casinghead will obviously be lower.

The possibility of utilizing dry gas fields to meet part of the demand for gas during the winter is expected to come up for decision within 30 days. The Buttonwillow gas field, discovered by Milham Exploration Co., has been prevented from going on commercial gas production due to a superabundance of gas produced in oil fields, although it is capable of producing approximately 100,000,000 feet of dry gas per day. The Milham interests have finished 23 commercial gas wells at Buttonwillow, all shut in immediately. General Petroleum has finished two gas wells in the Buttonwillow district and three others on the More ranch in the Goleta gas field of Santa Barbara County.

Shamrock Plant in Moore County Being Tested Out

AMARILLO, Tex., Sept. 18.—The Shamrock Oil & Gas Co. is testing out its new gasoline extraction plant recently completed in the Moore County area. The plant, which has a daily capacity of 60,000,000 feet, will serve several wells in addition to ones owned by the Shamrock company.

Work is being rushed on the gasoline plant being constructed by the Hagy-Harrington-March group in eastern Carson County. The foundation has been completed. The plant, with a daily capacity of 100,000,000 feet of gas, will serve seven wells.

Humble to Start Work on New Repressuring Plant

The Humble Oil & Refining Co. will build a $70,000 repressuring plant in the Hilbig Field, Bastrop County, Louisiana. Construction will start in the near future.

The company has 13 producers and 5 dry holes in the field. No. 8 J. Wilhelm will be the induction well for repressuring the producers. The total depth of this test was 2,507 feet in the Serpentine.

ENLARGING HENDERSON PLANT

PLEMONS, Tex., Sept. 18.—The casinghead gasoline plant of the Henderson Co. in Sanford, Hutchinson County, is to be enlarged, increasing its daily capacity to 40,000,000 feet of gas.

NEWS FOR PETROLEUM REFINERS

Nominating Committee for Refining Group Appointed

W. W. Lowe, Henry L. Doherty & Co., New York, has been appointed chairman of the 1933 nominating committee for the Division of Refining of the American Petroleum Institute. Announcement of the appointment of Mr. Lowe and the 14 men who will serve with him was made by D. J. Moran, chairman of the general committee and vice president of the Institute. The committee will nominate the 20 elective members of the general refining committee at the annual meeting of the Institute in Chicago October 24-26, and the five other committeemen will be named by the president of the Institute following the annual meeting. Other nominations may be made when concurrence is given by as many as 15 enrolled members of the division.

The other members of the nominating committee designated by Chairman Moran are: L. F. Bayer, vice president Associated Oil Co., San Francisco; P. G. Blazer, president Ashland Refining Co., Ashland; T. G. Belbridge, supervisor process division, Atlantic Refining Co., Philadelphia; D. W. Grant, assistant to president, Pennzoil Co., Oil City; H. H. Greene, vice president Kendall Refining Co., Bradford; R. A. Halloran, manager research and developmnt department, Standard Oil Co. of California, San Francisco; N. E. Loomis, manager technical service division, Standard Oil Co. of New Jersey, New York; L. G. Metcalf, manager of refineries, Union Oil Co. of California, Los Angeles; E. B. McConnell, assistant to general manager of refineries, Standard Oil Co. (Ohio), Cleveland; C. E. Olmsted, vice president and general manager California Petroleum Corp., Los Angeles; M. G. Paulus, vice president, Standard Oil Co. (Indiana), Chicago; A. E. Pew, Jr., vice president Sun Oil Co., Philadelphia; J. B. Rather, in charge general and research laboratories, Socony-Vacuum Corp., New York, and Herschel G. Smith, manager refinery technical division, Gulf Refining Co., Philadelphia.

High Freight Rates Likely to Hit Canadian Refiners

CHATHAM, Ontario, Sept. 18.—Increased freight rates, effective November 4, on crude oil shipments from the southwestern United States to western Canada are expected to have a serious effect on independent refiners in the western provinces. The average increase in the new rates is about 21 cents per 100 pounds, or 65.32 cents per barrel of oil, taking the weight of oil at 7¼ pounds to the gallon and 42 gallons to the barrel. A comparative table of the new and old tariffs follows:

	Cents	
	New	Old
Moose Jaw, Sask.	.67⅛	.46⅛
Winnipeg, Man.	.67⅛	.46⅛
Regina, Sask.	.93⅛	.67
Edmonton, Alta.	.96⅛	.69

The increase will not affect supplies of crude from the Montana fields, nor will it affect shipments to Canadian refineries, which ship by rail at least 65 per cent of the refined products made from the American crude.

Small refining companies distributing their products by tank truck are understood to have been underselling the large refining companies, and these will be affected by the increased rates on their crude oil. Some of the small plants have been investigating the possibility of importing crude oil from Soviet Russia to replace the American supply.

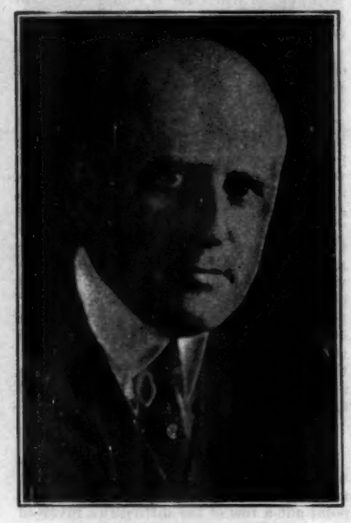
This Year's N.P.A. Meeting Unusually Important Declares Fayette B. Dow

"There never was a more important meeting of the National Petroleum Association nor a more opportune time to hold such a meeting," declares Fayette B. Dow, general counsel of the association, in a letter accompanying the program to be carried out at the organization's thirty-first annual convention to be held this week in Atlantic City, N. J., beginning Wednesday forenoon and closing Friday. All sessions will be held in the Traymore Hotel. Mr. Dow says he has received many announcements of intention to be present not only from members of the association but from other men in the industry who believe this first large meeting within the industry following the signing of the oil code by the President has unusual importance.

E. M. LYONS
President

There will be a series of conferences in connection with the meeting. A conference on gasoline will be held on Wednesday morning, September 20, at 10:30 daylight saving time. All refiner members should be represented. A preliminary conference will be held at 10:30 between committees from the Pennsylvania and the Mid-Continent groups.

The Pennsylvania refiners will go into conference immediately after the general session on Thursday morning and the conference will be continued in the afternoon. At 3 p.m. Thursday a joint conference will be held with refiners from the Mid-Continent and other areas. Important subjects will be considered at these conferences.



FAYETTE B. DOW
General Counsel

The complete program follows:

Wednesday Morning, September 20

10 a.m. (D.S.T.)

Meeting of executive committee of fire and safety marshals.

10:30 a.m. (D.S.T.)

Conference on gasoline.

Meeting of committees. Pennsylvania and Mid-Continent lubricating oils.

Wednesday Afternoon, September 20

2 p.m. (D.S.T.)

President's address: E. M. Lyons, president, National Petroleum Association.

Appointment of committees.

The Administration of the Federal Oil and Gasoline Taxes: Willis Crane, associate counsel, National Petroleum Association.

The Effect of the National Recovery Act on Our Fire and Accident Costs: James H. Herbert, president, Fire and Safety Marshals of the National Petroleum Association.

The Economics of Tetraethyl Lead: Dr. Graham Edgar, vice president, Ethyl Gasoline Corp.

Some Recently Formed Impressions: Ralph T. Zook, member Planning and Coordinating Committee.

Report of Nominating committee.

Election of trustees.

Wednesday Evening, September 20

8 p.m. (D.S.T.)

Board of trustees meeting.

Thursday Morning, September 21

10 a.m. (D.S.T.)

The Work of the American Petroleum Industries Committee: Baird H. Markham, director, American Petroleum Industries Committee.

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Lines to Pan American's New Refinery Completed

HOUSTON, Tex., Sept. 18.—Two new pipe lines connecting with the system of the Stanolind Pipe Line Co. built to serve Pan American Refining Co.'s new plant at Texas City have been completed. The lines consist of 17 miles of 10-inch from Dawes Junction to Baytown and 31.8 miles of 12-inch from Sinco to Texas City. The two new lines are to be operated by Stanolind, but are owned by Pan American Pipe Line Co., another subsidiary of the Standard of Indiana.

Incorporation papers list F. F. Bokerm and M. L. Relfe as Texas service agents. Officers of the Pan American Pipe Line Co. are listed as E. G. McKeever, chairman; Alvin Thalheimer, president; J. S. Wood, vice chairman; M. J. Gately, executive vice president; J. A. Carroll, Jr., vice president and treasurer, and D. H. Baker, secretary.

ROYALITE TO TAKE HOME GAS

CHATHAM, Ontario, Sept. 18.—The Home Oil Co., with production in South Turner Valley, has arranged with the Royalite Oil Co. for the latter to take a prorated portion of the tail gas from the Home company's separators for processing through the Royalite gasoline absorption plant, which is expected to increase the crude naphtha recovery. Approximately half the tail gas from the Home wells is now being processed by the Royalite plant.

RESEARCH COMMITTEE CHANGE

Dr. A. E. Becker, Standard Oil Development Co., New York, has been appointed to membership on the motor fuel research committee of the American Petroleum Institute to take the place of Dr. C. O. Johns of the same company, who resigned. Members of the committee represent the Institute on the co-operative fuel research committee, which includes as well representatives of the Society of Automotive Engineers, the National Automobile Chamber of Commerce and the Bureau of Standards.

NATIONAL ROAD OIL CONGRESS

An attendance of at least 600 persons is expected at the third annual National Road Oil Congress to be held in Tulsa October 19 and 20, according to E. Bee Guthrey, group secretary. Invitations will be extended every city and county engineer and county commission in Oklahoma. All chambers of commerce in Oklahoma and adjoining states will be invited to have representation by the Tulsa Chamber of Commerce.

ATLANTIC RENEWS CONTRACT

PHILADELPHIA, Pa., Sept. 18.—The Atlantic Petroleum Purchasing Co. has extended for another year its contract with the Texas Gulf Producing Co. for purchase of the latter's output of crude oil. The Atlantic may take any quantity up to 10,000 bbls. daily at the regular posted price.

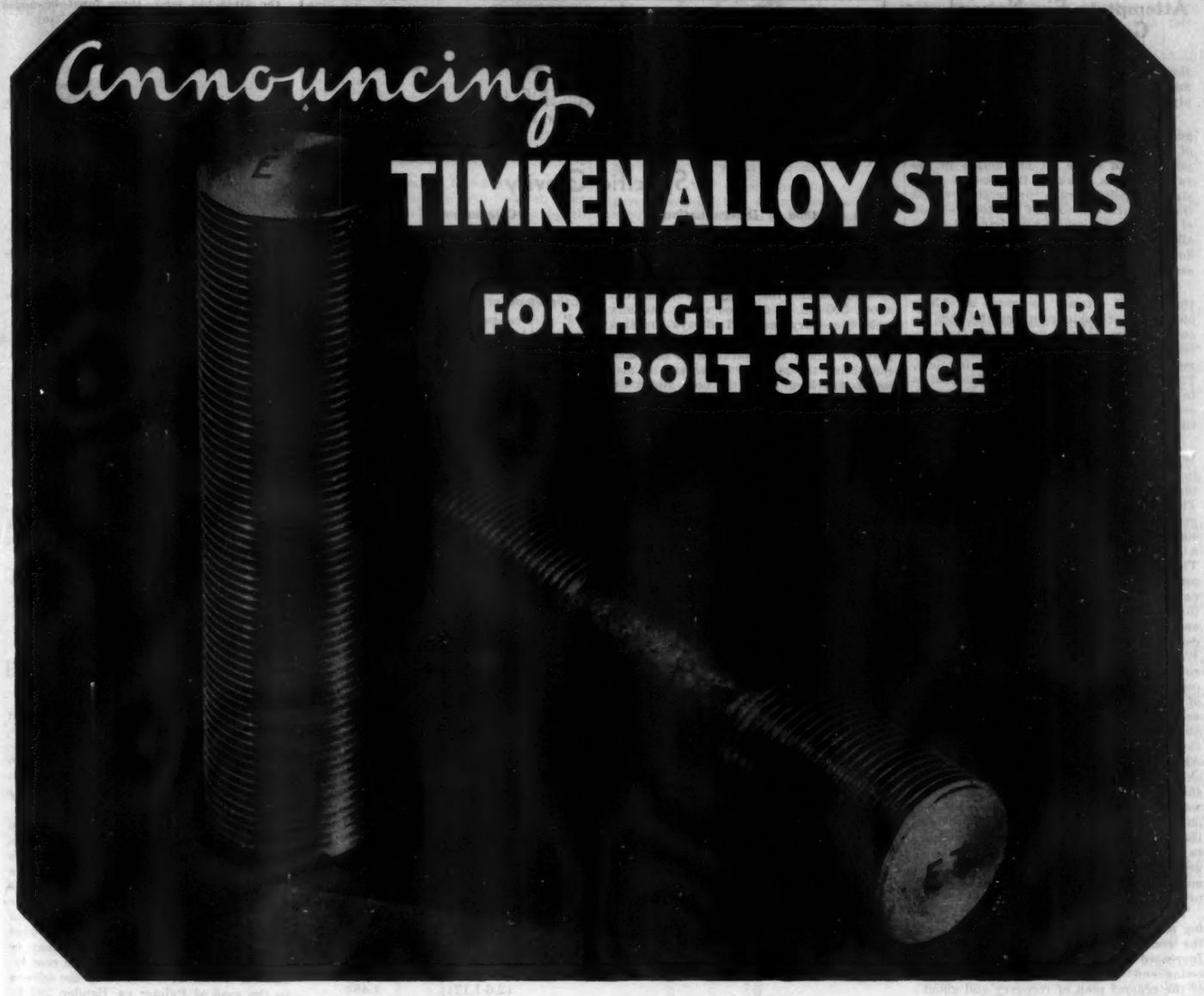
ISSUES REFINERY BOOKLET

The Western Petroleum Refiners Association has just issued a booklet containing the name, location, capacity, type of cracking facilities and other pertinent information regarding every refinery in the United States. The plants are grouped first by states and then by companies. A large map accompanying the booklet shows each town in which a refinery is located. It is suitable as a wall map. The data were compiled by E. H. Ritter, statistician. Copies are available at the association's offices in the Cosden Building, Tulsa.

Announcing

TIMKEN ALLOY STEELS

FOR HIGH TEMPERATURE BOLT SERVICE



As the result of the success of Timken Alloy Steels in other phases of high temperature service—notably in boiler tubes, superheater tubes, condenser tubes, heat exchanger tubes and oil refinery tubes—a group of Timken Steels has been created to provide outstanding performance in bolts and studs for elevated temperature work.

There are four different analyses in the group, so diversified in their individual characteristics that any bolt user's specific requirements as to creep resistance and high temperature stability can be fully and adequately met.

These steels include four different price ranges and comply in every respect with the A.S.T.M. Standard Specifications For High Temperature Bolt Materials. They are:

S.A.E. 4140. A well-known standard analysis. As produced by Timken manufacturing practices its high temperature properties are at their best.

DM-45. A recent development resulting from Timkens advanced metallurgical thought and research along high temperature lines.

CNM-40. Chrome-Nickel-Moly with medium carbon content.

17-22. Chrome-Tungsten-Silicon. Another exclusive Timken development.

Timken's long experience as both a *maker* and *user* of high grade alloy steels, combined with the advanced metallurgical and manufacturing practices and rigid quality control in the modern Timken steel plant, means satisfaction and economy for every user of high temperature bolts and studs fabricated from these steels.

It will pay you to investigate now. We will be glad to fill your requirements or put you in touch with a dependable source of supply for bolts and studs made of these steels.

THE TIMKEN STEEL AND TUBE COMPANY, CANTON, OHIO

District Offices or Representation in the following cities:

Detroit Chicago New York Los Angeles Boston
Philadelphia Houston Buffalo Rochester Syracuse

World's Largest Producer of Electric Furnace Steel

TIMKEN ALLOY STEELS

Attempt to Fix Natural Gasoline Prices Difficult

(Continued from Page 27)

should be given some preference in the matter of balancing total current oil supply with total oil consumption.

To this end the production of natural gasoline might first be determined, and of course this would be influenced by the prorating of crude oil production in the various fields. Taking this output as a starting point, crude production would then be curtailed so that the total supply of natural plus crude, plus imports of all oils, would just balance the sum of the domestic demand and exports of all oils, assuming stocks are to remain unchanged.

There is no evidence that the administration will attempt to revive all kinds and types of business under the code as some believe. It will not hazard the success of its broad program by trying to make profitable that which is obsolete. To do so would bring unreasonable profits to the efficient units and would invite every form of cheating to move production.

Every statement that has come from Washington in the past week in regard to price and price fixing has suggested that average costs would serve as a basis. The average cost of manufacturing natural gasoline in the Mid-Continent is somewhere between 1 cent and 8 cents a gallon exclusive of the cost of the gas. This is a wide spread but figures can be presented showing that in certain plants natural gasoline is being made for less than 1 cent a gallon, including all direct and indirect charges. In other plants the comparable cost reaches 8 cents a gallon. With the added costs of operation accumulating under the provisions of the oil code, together with the curtailed output of natural gasoline that will become necessary from time to time, it becomes obvious that a fixed price would be difficult to establish for natural gasoline. Also, it should not be forgotten that the chief concern of the administration is the re-employment of men at a living wage. Price fixing will be resorted to only so as to reach this end. It is not the purpose of the code to permit prices to be boosted above the point where natural gasoline plants and other departments of the oil industry may be returned to a reasonably profitable basis.

The same careful planning and servicing of sales promises to be needed under the code even though prices are fixed. Increased employment through the marketing end will be encouraged as a part of the general plan of recovery and about the only change that seems certain is the removal of the "chiseler" from the industry.

N.P.A. Meeting Unusually Important Declares F. B. Dow

(Continued from Page 28)

Comparative Hours and Wages in the Various Industries: Dr. Alexander Sachs, chief, Economic Research and Planning Division, National Recovery Administration.

The Petroleum Marketing Code: C. E. Arnott, member, Planning and Co-ordinating Committee.

(There will be a conference of Pennsylvania refiners on lubricating oils immediately following the morning session.)

Thursday Afternoon, September 21

2 p.m. (D.S.T.)

Group conference on Pennsylvania lubricating oil continued.

3 p.m. (D.S.T.)

Joint conference with refiners from the Mid-Continent and other areas.

Thursday Evening, September 21

7 p.m. (D.S.T.)

Fellowship dinner—Shelburne Hotel.

Banquet and entertainment committee: R. A. Wotowitch, chairman; Harry A. Logan, W. E. Wall.

Reception committee: Sheldon Clark, chairman; Forrest D. Dorn, A. H. Irelan, C. L. Jones, Otto Koch, A. M. Maxwell, Charles McLean, A. W. Scott, C. G. Sheffield, C. L. Suhr, N. H. Weber, Ralph T. Zook.

Friday Morning, September 22

10 a.m. (D.S.T.)

Aviation: Eugene L. Vidal, assistant director for air regulation, U. S. Department of Commerce.

A New Deal for the Petroleum Industry: Joseph E. Pogue, consulting engineer.

NRA Codes, Price Fixing and the Antitrust Laws: Gilbert H. Montague.

Remarks: Fayette B. Dow.

Hints of Practical Value

By L. G. E. BIGNELL

Petroleum Engineering Editor

Specific Gravity

Method of Determination

Dry the clay or other finely powdered material at not over 212° F. and at once weigh 250 grams and place in a dry liter measuring flask which has been previously weighed and the weight recorded. Add about 500 c.c. of distilled water and mix well. Since dry material always contains air, such air must be removed from the pulp (or mud) by aspiration of the flask containing the mixture of water and material. Distilled water is now added up to the 1,000 c.c. mark, the flask with contents weighed and the weight of the empty flask deducted. Now weigh the same flask filled to the 1,000 c.c. mark with distilled water at the same temperature used for mixing the clay sample.

Let a = weight of dry clay (or other material) taken.

b = weight of water in the flask when filled to the mark with water alone.

c = weight of mixture of clay and water at the same mark.

d = weight of water in the mixture.

w = weight of water displaced by the dry clay.

s = specific gravity of the clay.

v = volume of water displaced by dry clay.

Then

(1) $c - a = d$

(2) $b - d = w$

(3) $s = \frac{a}{w}$

(4) $s = \frac{a}{a + b - c}$

(5) $w = \frac{a}{s}$

(6) $v = \frac{a}{62.5\,s}$ for cu. ft.

(7) $v = \frac{a}{8.34\,s}$ for gallons.

Calculation of Muds

Let A = Specific gravity of dry solids to be added.

B = Specific gravity of mud desired.

C = Specific gravity of original fluid (either mud or water).

P = Per cent of dry solids by weight to be added to original fluid.

D = Pounds of dry solids to be added to each gallon or cubic foot of original fluid to produce the desired pounds per gallon or pounds per cubic foot.

Then

(8) $P = \frac{100A(B-C)}{B(A-C)}$

(9) $D = \frac{62.5P}{100 - P}$ or $62.5 \times \frac{A(B-C)}{(A-B)}$ for lbs. per cu. ft.

(10) $D = \frac{8.34P}{100 - P}$ or $8.34 \times \frac{A(B-C)}{(A-B)}$ for lbs. per gallon.

Example of Mud Calculation

A pit or tank of 1,000 cubic feet capacity contains 500 cubic feet of water. It is desired to add enough clay to the water to make a 70-pound mud, per cubic foot. Assuming the specific gravity of the clay to be 2.6, how much clay is needed to mix with the 500 gallons of water to make the 70-pound mud and how many cubic feet of mud will result?

$A = 2.6$

$B = \frac{70}{62.5} = 1.12$

C = water = 1

From Formula 9:

$$D = 62.5 \times \frac{2.6(1.12-1)}{(2.6-1.12)} = \frac{62.5 \times 2.6 \times .12}{1.48}$$

= 13.17 lbs. clay for each cu. ft.

500 cu. ft. × 14.17 = 6,585 total lbs. clay to be added.

From Formula 6:

$v = \frac{6.585}{62.5 \times 2.6} = 40.5$ cu. ft. water displaced by clay.

Therefore the original 500 cubic feet of water plus the 40.5 cubic feet of water displaced by clay = 540.5 cubic feet of mud will be in the pit or tank.

After having made this 70-pound mud, it is decided to make it up to 80 pounds per cubic foot using the same clay. How many pounds of clay must be added?

Use Formula 9:

A = 2.6, the specific gravity of the clay.

$B = \frac{80}{62.5} = 1.28$, the specific gravity of the mud desired.

$C = \frac{70}{62.5} = 1.12$, the specific gravity of the original mud.

Then

$$D = 62.5 \frac{2.6(1.28-1.12)}{(2.6-1.28)} = 62.5 \times \frac{2.6 \times .16}{1.32}$$

= 19.7 lbs. clay to be added to each cubic foot.

Since there were 540.5 cubic feet of the 70-pound mud, there must be added 540.5×19.7=10,648 pounds of clay.

From Formula 6:

$v = \frac{10{,}648}{62.5 \times 2.6} = 65.5$ cubic feet of water displaced by new clay.

	Cu. ft.
Original volume of 70-lb. mud	540.5
Additional volume by new clay	65 5
Total volume of 80-lb. mud	606 0

Specific Gravity of Common Materials

The following list shows that iron oxide, the base of colox, ranks high in specific gravity in comparison with other materials.

Name—	Spec. grav.
Iron oxide	4.9 to 5.3
Barytes	4.3 to 4.6
Cement	3.1 to 3.2
Dolomite	2.8 to 2.9
Limestone	2.7 to 2.9
Slate	2.7 to 2.8
Calcite	2.7
Quartz (Silica)	2.65
Talc	2.6 to 2.8
Clay	2.5 to 2.7
Feldspar	2.5 to 2.7
Borates	2.3 to 2.5
Bentonite	2.3 to 2.4
Gypsum	2.3
Asbestos	2.2 to 2.3

There is no relation between specific gravity and molecular weight. A substance may have high molecular weight and low specific gravity or vice versa. For example:

Substance—	Molecular weight	Specific gravity
Gypsum	172	2.3
Quartz	60	2.65

Important Tax Decision in Favor of Signal Oil

(Continued from Page 27)

to create vacuums, extracted the gas that would not otherwise be produced from the premises, conferred upon it an incorporeal right to be exercised in the land in relation to the gas which was in the nature of a grant of a profit a prendre.

"If petitioner, by these contracts and the method employed in reducing wet gas to possession, acquired an interest in the gas in place or a right to share in the gas produced, it then had the requisite economic interest which under the statute entitled it to reasonable allowances for depletion, and it matters not under what particular designation the right may be classified. . . . . The issue in the case before us, we think, is settled by the opinion in the case of Palmer vs. Bender, 287 U. S. 551. . . . In that decision . . . the court expressed the opinion that the language of the statute is broad enough to permit a depletion allowance in every case where a taxpayer has acquired, by investment, any interest in the oil in place, and acquires, by any form of legal relationship, income from the extraction of the oil, to which the taxpayer must look for a return of his capital."

Many income tax cases involving depletion allowances in respect of casinghead gasoline revenue have been held in abeyance throughout the country pending the outcome of the present Signal Gasoline Corp. decision. It is not known whether the Bureau of Internal Revenue will carry an appeal to the U. S. Supreme Court.

In concluding its decision, the Circuit Court in the Signal case stated:

"Applying the principle as established by the Supreme Court it seems clear that the interest of petitioner was included within the meaning of the statute, permitting deduction of a reasonable allowance for depletion, according to the peculiar conditions in the case. The decision of the Board of Tax Appeals is reversed."

A. S. MAXWELL DEAD

A. S. Maxwell, sales and advertising manager for J. H. Williams & Co., New York, Buffalo and Chicago, died in his home in Garden City, Long Island, N. Y., September 9.

Newly Chosen President of Shell Petroleum Corp.

ALEXANDER FRASER

Alexander Fraser, recently chosen president of the Shell Petroleum Corp., has assumed his new duties.

Purchasers' Nominations Exceed Texas Allocation

AUSTIN, Tex., Sept. 19.—Texas oil purchasers filed nominations of 1,179,831 bbls. daily with the State Railroad Commission in its first hearing, held here Saturday, since the Federal Government fixed the total state allowable at 975,200 bbls. daily.

Harris Toler, commission accountant, said not over 25,000 bbls. of duplications were listed in this total.

Purchasers' nominations by fields were:

	Bbls.
East Texas	564,529
Conroe	64,949
Gulf Coast	139,585
West Texas	129,997
Southwest Texas	71,666
West Central Texas	31,790
Panhandle	40,100
North Texas	72,127
Van	49,287
East Central Texas	2,950
Polk County	3,000

Chairman Lon A. Smith announced the Railroad Commission will restrict Texas production to the amounts fixed by the Federal oil administration, regardless of the nominations. Commissioner C. V. Terrell joined the chairman in supporting this attitude.

TANK WAGON CHANGES

(Continued from Page 24)

July 14 it made a general advance of one-half cent.

Standard Oil Co. of New York advanced the gasoline and kerosene retail prices one-half cent throughout New York and the New England States, on September 12.

Standard Oil Co. (New Jersey), September 20, raised the tank wagon price of kerosene 1 cent throughout its territory.

Continental Oil Co. September 7 reduced the tank wagon and service station price of gasoline 1½ cents in Butte. September 11 it advanced tank wagon and service station prices one-half cent in Wyoming and 1 cent in Colorado, Utah and New Mexico and in Billings, Mont.

Imperial Oil, Ltd., September 11 advanced the tank wagon and service station prices of gasoline 1 cent and on the same date advanced the tank wagon price of kerosene 1 cent.

Standard Oil Co. of Nebraska September 4 reduced the tank wagon price of kerosene one-half cent. September 11 it reduced the tank wagon price of gasoline 1.3 cents and the service station price 2.3 cents at McCook. September 13 it advanced the tank wagon price of kerosene 1 cent throughout Nebraska.

Ames Explains Position of the Texas Co. on Price

Following is a copy of a telegram sent to Harold L. Ickes, Secretary of the Interior, by C. B. Ames, chairman of the board of the Texas Co.:

"In view of the inaccurate publicity emanating from Washington, I wish to state to you formally the position of the Texas Co. relative to the code.

"First. We have steadily opposed governmental price fixing because:

"(a) The Supreme Court of the United States has specifically held that the state has no constitutional power to fix the price of gasoline, Williams vs. Standard Oil Co., 278 U.S. 235.

"(b) We believe that if the production of crude oil is brought into balance with consumptive demand economic conditions will regulate price on a sound basis; and that

"(c) Unless production and consumption are in balance any governmental price fixing is bound to fail.

"Second. Notwithstanding our convictions on price fixing we are prepared to give you or the committee any facts within our possession relative to this or any other subject, but are unwilling to participate in framing a price schedule by the expression of opinions as distinguished from facts.

"Third. This company participated actively in drafting the code, one of our executives being a member of the committee which drafted the producing sections and another of our executives being a member of the committee which drafted the marketing sections, and we are giving this code our wholehearted support and are complying with its letter and spirit.

"Fourth. We believe you are making excellent progress in procuring the cooperation of the state commissions and the industry in your production program and are co-operating with you and the committee in every possible way in your efforts to stabilize the situation.

"Fifth. As the inaccurate publicity does this company an injustice we are taking the liberty of giving this telegram to the press."

Crude Oil Prices

(Continued from Page 23)

Pennsylvania Grade Oil in Southwest Pennsylvania Lines 2.02
Penna Grade Oil in Eureka Pipe Line Lines 1.97
Penna Grade Oil in Buckeye Pipe Line Lines 1.92
Corning Grade Oil in Buckeye Pipe Line Co.'s lines (Sept. 11, 1933) 1.20

TIDE WATER PIPE CO.
(Effective September 6, 1933)

Bradford, Pa. $2.35
Allegany, N. Y. 2.35

PENNZOIL CO.
(Effective September 6, 1933)

Pennsylvania Grade Oil in National Transit Lines:
Group A $2.27
Includes Coohran, Franklin, Hamilton and Doolittle districts.
Group B 2.26
Includes Titusville district.
Group C 2.25
Includes Turkey and Tidioute districts.
Group D 2.24
Includes Bear Creek and Porkey districts.
Group E 2.22
Includes Eldeneau, Bull Creek, Rough Run, Carbon, Dipner, Bredin, McJunkin, Jameson, Kennerdell, Emlenton, Tiona, Lacy and Kinzua districts.
Price depends on length of pipe line haul to plant at Oil City.

PURE OIL CO.
(Effective September 6, 1933)

Cabin Creek, W. Va. $2.07
Bradford Hollow, W. Va. 2.07
Kelly Creek, W. Va. 1.97

Rocky Mountain States

Iles, light (Sept. 9, 1933) ..... $.85
Iles, heavy (Sept. 9, 1933) ..... .79
Florence, Colo. (June 17, 1933) ..... .30
Fort Collins and Wellington, Colo. (June 17) .....(See Salt Creek prices)
Cat Creek, Mont. (June 17, 1933) ..... .52
Big Muddy (Sept. 9, 1933) ..... .90
Frannie, light (Sept. 9, 1933) ..... .76
Frannie, heavy (Sept. 9, 1933) ..... .57
Salt Creek and La Barge (Sept. 9, 1933)
See Stanolind Mid-Continent price schedule
Grass Creek, light (Sept. 9, 1933) 1.07
Grass Creek, heavy (Dec. 15, 1932) ..... .45
Elk Basin (Sept. 9, 1933) 1.07
Rock Creek (Sept. 9, 1933) ..... .91
Dutton Creek (July 8, 1933) .....See Mid-Continent gravity prices
Lance Creek (Dec. 16, 1932) ..... .92
Poison Spider (Mar. 5, 1931) ..... .70
Hudson (June 2, 1931) ..... .65
Lander (Mar. 5, 1931) ..... .40
Rex Lake (Feb. 22, 1930) 1.10
Osage (Jan. 18, 1933) ..... .52
Lost Soldier (Sept. 8, 1933) ..... .62
Hamilton Dome (Dec. 16, 1932) ..... .25
Torchlight (Sept. 9, 1933) 1.07
Greybull (Sept. 9, 1933) 1.07
Pondera (June 17, 1933) ..... .75
Sunburst (Sept. 9, 1933) 1.25
Hogback (Sept. 9, 1933) 1.00
Lea County, N. Mex. ..... .60
Maljamar (Sept. 9, 1933) ..... .60
Artesia-Jackson (Sept. 9, 1933) ..... .60

Note—Salt Creek, Torchlight, Elk Basin, Grass Creek, Frannie, Greybull, Hogback and Iles by Stanolind Oil & Gas Co. Elk Basin, Grass Creek light, Big Muddy, Rock Creek and Sunburst by Ohio Oil Co. Lost Soldier posted by Producers & Refiners Corp. Artesia, Jackson and Maljamar posted by Continental Oil Co. Lea County, effective September 8, by Humble Oil & Refining Co. and other buyers; Fort Collins, Wellington, Orchard, Florence, Big Muddy, Cat Creek, Rattlesnake and Table Mesa by Continental Oil Co. Osage posted by Arro.
*Continental Oil Co.

Middle Western States

OHIO OIL CO.
(Effective September 9, 1933)

Lima $1.20
Illinois 1.12
Princeton, Ind. 1.12
Plymouth ..... Shut in
Western Kentucky 1.07
Midland, Mich. (Sept. 9, 1933)* ..... .99
Somerset, Ky. (Sept. 11, 1933) 1.12
Hart County, Ky. (Sept. 11, 1933) 1.07
Muskegon, Mich. (Mar. 27) ..... See note

*Posted by Pure Oil Co. Producers Pipe Line Co. pays 5 cents per barrel over Pure Oil Co.'s posted price. Muskegon: All companies pay $1 per barrel effective March 27. Somerset, Ky., crude purchased by Ashland Refining Co., Ashland, Ky., and posted price includes premium. Hart County, Kentucky, crude purchased by Stoll Refining Co.

Canada

Ontario (September 9, 1933):
Petrolia* $2.10
Oil Springs* 2.17
Turner Valley (September 11, 1933):†
Clear naphtha $2.50
Discolored naphtha 2.26
Crude oil, 50 gravity 2.93
Crude oil, 45 to 49.9 ..... 2.26
Crude oil, 40 to 44.9 ..... 1.61

*Imperial Oil, Ltd. †Imperial Oil, Ltd., and Regal Oil & Refining Co.

Mexico

Panuco* ..... $.486
*F.o.b. ship, based on August transactions and exclusive of production and export taxes and bar dues.

California Crude Oil Prices

STANDARD OIL CO. OF CALIFORNIA
(Effective September 6, 1933)

For current purchases of crude oil at the well (unless otherwise specified). (All gravities above those quoted take highest price offered in that field.)

Gravity—	Long Beach	Seal Beach, Alamitos Heights	Huntington Beach	Inglewood	Playa del Rey	Olinda, Brea Canyon	Athens-Rosecrans	Torrance	Richfield	Whittier La Habra	Montebello	Santa Fe Springs	La Habra-Coyote	Midway-Sunset, Elk Hills, Buena Vista Hills	Lost Hills	Coalinga	Coyote
14-14.9	$ .65	$.65	$.65	$.65	$.65	$.65	...	$.65	$.65	$.65	$.65	...	$.65	$ .57	$.57	$.57	$ .65
15-15.9	.65	.65	.69	.69	.66	.69	...	.66	.65	.65	.65	...	.65	...	...	...	.65
16-16.9	.66	.65	.72	.73	.69	.73	...	.69	.67	.68	.65	...	.65	...	...	...	.65
17-17.9	.69	.65	.75	.76	.73	.76	...	.72	.70	.71	.65	...	.68	...	...	...	.68
18-18.9	.72	.65	.78	.80	.76	.79	...	.75	.74	.74	.65	...	.71	.61	.61	.59	.71
19-19.9	.75	.65	.81	.83	.80	.82	...	.78	.78	.78	.65	...	.74	.64	.65	.62	.74
20-20.9	.78	.68	.83	.87	.83	.85	...	.81	.82	.81	.66	...	.78	.67	.69	.65	.78
21-21.9	.81	.72	.86	.90	.87	.88	...	.83	.86	.84	.69	$.72	.81	.70	.73	.68	.81
22-22.9	.84	.76	.89	.94	.90	.92	...	.85	.89	.87	.72	.76	.84	.73	.76	.72	.84
23-23.9	.88	.81	.92	.97	.94	.96	$.88	.89	.93	.90	.76	.79	.87	.77	.79	.75	.87
24-24.9	.91	.85	.95	1.01	.97	.98	.89	.92	.97	.93	.80	.83	.90	.81	.82	.78	.90
25-25.9	.94	.89	.98	...	1.00	1.01	.90	.95	1.00	...	.85	.87	.93	.85	.85	.81	.93
26-26.9	.97	.93	1.01	...	1.04	1.04	.94	.98	1.04	...	.89	.90	.96	.89	.88	...	.96
27-27.9	1.00	.98	1.04	...	...	1.07	.97	...	1.08	...	...	.94	.99	.93	.91	...	.99
28-28.9	1.03	1.02	1.07	...	...	1.10	1.01	...	1.11	...	...	.98	1.02	.97	.94	...	1.02
29-29.9	1.06	1.05	1.09	...	...	...	1.04	...	1.15	...	...	1.01	1.05	1.01	.97	...	1.05
30-30.9	1.09	1.10	1.12	...	...	...	1.08	...	...	...	...	1.05	1.09	1.05	1.00	...	1.09
31-31.9	...	...	...	...	...	...	1.12	...	...	...	...	1.08	1.12	1.09	...	...	1.12
32-32.9	...	...	...	...	...	...	1.15	...	...	...	...	1.12	1.15	1.13	...	...	1.15
33-33.9	...	...	...	...	...	...	...	...	...	...	...	1.16	1.18	1.17	...	...	1.1
34-34.9	...	...	...	...	...	...	...	...	...	...	...	1.19	1.21	...	...	...	1.21
35-35.9	...	...	...	...	...	...	...	...	...	...	...	1.23	...	...	...	...	...
36-36.9	...	...	...	...	...	...	...	...	...	...	...	1.26	...	...	...	...	...
37-37.9	...	...	...	...	...	...	...	...	...	...	...	1.30	...	...	...	...	...
38-38.9	...	...	...	...	...	...	...	...	...	...	...	1.34	...	...	...	...	...

Additional Standard Oil Quotations

Elwood Terrace—F.o.b. ship, 33 degrees, $1.03; 34 degrees, $1.06; 35-35.9, $1.09; 36-36.9, $1.12; 37 degrees and over, $1.15.
Newhall—14 degrees and over, 57 cents.
McKittrick and Kern River—14 degrees and over, 57 cents.
Wheeler Ridge—14 to 17.9 degrees, 57 cents; 18-18.9, 58 cents; 19-19.9, 61 cents; 20-20.9, 64 cents; 21-21.9, 67 cents; 22-22.9, 70 cents; 23-23.9, 73 cents; 24-24.9, 76 cents; 25 degrees and over, 79 cents.
Kettleman Hills—33-33.9 degrees, 93 cents; 34-34.9, 96 cents; 35-35.9, 99 cents; 36-36.9, $1.03; 37-37.9, $1.05; 38-38.9, $1.08; 39 degrees and over $1.11.

The Texas Co. posted in Shiel Canyon, South Mountain and Santa Paula as follows: 14 to 17.9, 57 cents; 3 cents added for each degree up to and including 26-26.9 degrees at 84 cents; then 4 cents added for each degree up to and including 30 degrees and over at $1. Company posts Standard Oil Co.'s Montebello prices in Montebello and North Whittier, and posts Standard Oil Co. prices in Signal Hill, Alamitos Heights, Huntington Beach, Torrance, Richfield and Santa Fe Springs, all effective September 6.

General Petroleum Co. posts Standard Oil Co. prices in Athens, Rosecrans and Signal Hill; Alamitos Heights up to 26-26.9; Santa Fe Springs up to 35-35.9; Richfield up to 25-25.9; Brea Canyon and Olinda up to 25-25.9, and Torrance up to 26-25.9.

Union Oil Co., effective September 6, posts same prices as Standard Oil Co. in all fields in which both purchase, excepting that in Athens-Rosecrans, Union Oil Co. posts 21-21.9, 72 cents, and 33-33.9, $1.18; 34-34.9, $1.21, and 35-35.9, $1.24.

Associated Oil Co., effective September 6, posted same prices for the same grades as Standard Oil Co. of California, excepting that in some fields its gravity scale stops as follows: Huntington Beach, 26 degrees and over; Seal Beach and Alamitos Heights, 26 degrees and over; Coyote Hills, 23 degrees and over; Richfield, 25 degrees and over; Torrance, 25 degrees and over; Inglewood, 24 degrees and over; Santa Fe Springs, 35 degrees and over, Midway-Sunset, Elk Hills, Buena Vista Hills, 30 degrees and over. Also Associated pays 52 cents for oil of 11 to 13.9 gravity in McKittrick, Kern Front, Kern River, Midway-Sunset, Elk Hills, Buena Vista Hills, and Coalinga.

Late Fields

OKLAHOMA

Late reports on three new wells in the South St. Louis Pool in Pottawatomie County show Mac Bris Oil Co.'s No. 1, C SW SW NW Section 33-7-4, making 367 bbls. in 24 hours from dolomite pay at 4,193-4,200 feet. Vaughn and others' No. 1, C NW NE SW Section 33-7-4, produced 2,087 bbls. in 48 hours from dolomite pay at 4,215-19 feet, and later made 762 bbls. in 24 hours on the swab. Jones and others' No. 1, C NW NE NW Section 2-6-4, had Viola lime at 4,069 feet; set 6-inch at 4,085 feet, total depth 4,125 feet, and drilling. The well was swabbed at intervals and in 12 hours' actual swabbing time in the course of 36 hours made 265 bbls.

The Stanolind-Amerada-I. T. I. O. No. 1, SW cor. Section 25-6-7, Sasakwa townsite, Seminole County, was given a potential test and made 4,236 bbls. in 48 hours.

KANSAS

Potential tests in the Chase townsite pool in Rice County will begin on September 25.

Slick, Pryor & Lockhart's pipe line is now the Central State Pipe Line Co. The line runs from the McPherson County fields to refineries of the Sunflower Refining Co., and the Globe Oil & Refining Co. The Sunflower plant is now shut down for repairs and enlargements. It is reported that it will be doubled in crude oil capacity, but it may be 60 days before it resumes operations.

New Texas Co. Directors; Henry G. Lapham Resigns

NEW YORK, Sept. 19.—Three new directors have been added to the board of the Texas Corp. and the resignation of Henry G. Lapham accepted. This increases the directorate to 15 from 13. The new members are Lester J. Norris of St. Charles, Ill.; William H. Mitchell of Chicago, and Walter G. Dunnington of New York.

The resignation of Mr. Lapham as a director and the addition of three new directors representing larger stockholders was characterized as a partial victory for former President R. C. Holmes, who was revealed this morning as starting a proxy fight for further stockholding representation on the board. It was stated in quarters close to Mr. Holmes that he would not be satisfied with the present step but would continue his fight for a board of 25 members.

Mr. Holmes commenting on the change said: "This is a step in the right direction, but this action of the board will make no change in the plans and recommendation of the stockholders committee."

WANT A COPY OF THE REVISED OIL CODE?

The official oil code was printed in The Oil and Gas Journal for August 24. Since that time, however, a number of changes have been made, and those announced on September 14 are particularly important. Reprinting of the official oil code has been deferred by The Oil and Gas Journal until this time in order that these changes might be included.

Subscribers who wish to secure a free copy of this revised code will find elsewhere in this issue a mailing card intended for this purpose.

Other subscribers, who have sent in the mailing card but have not yet received their reprints of the code, will understand, after reading the first paragraph of this notice, the reason for the delay. Copies are being mailed this week to each subscriber who has mailed us his request on the card.

Secretary Ickes Convinces California He Means Business on Oil Allocations

LOS ANGELES, Calif., Sept. 18.—Secretary Ickes means business in the matter of curtailing production in California fields to the quota of 480,000 bbls. per day set under the code, according to advices received from Washington by J. R. Pemberton, state oil umpire.

Secretary Ickes is fully conversant with the fact that infractions of the code are being committed here and intends to take drastic action to stop them. It was also intimated that unless the gasoline war stops and overproduction ceases it is likely that California's quota for October will be reduced from its present level of 480,000 bbls. daily.

Violations of the schedules sent by the central proration committee effective September 8 will be subject to prosecution.

The Federal petroleum administrative board has advised that "all oil in storage as of September 8 is absolutely immovable except as part of the operator's current allotment and then only on approval of the planning committee."

Something more that California operators did not figure is that Administrator Ickes regards runs from storage as part of the daily quota and official forms are being sent on from Washington for authorizing such shipments and these make it "a felony to overship or overpurchase."

Washington has asked Umpire Pemberton to identify the 10 principal production violations to date and also to tabulate all data and stocks not furnished as requested and to list each failure as a violation. Releases for sale or purchase of oil are not to be validated until all data has been furnished.

While insisting on absolute uniform fairness Secretary Ickes has made it plain that he will not tolerate further violations of the code in any respect. Approved amendments to the code which answer many of the questions now troubling local producers are on their way to Los Angeles by air mail.

The central proration committee here is expected shortly to receive explicit authorization to carry out all provisions of the production part of the code and the advices from Washington indicate that Secretary Ickes is preparing to make a formal public statement to that effect and to the effect that violations of the quotas set will be subject to prosecution.

The "discovery" section of the code, the advices from Washington state, means just what it says and no shipments will be authorized from such pools or new sources of supply until a program of development for those pools has been made up and passed upon by Washington.

Secretary Ickes Announces More Revisions in Code

(Continued from Page 10)

troleum or petroleum products in or affecting interstate commerce out of said state to the extent necessary to effectuate the purposes of the National Industrial Recovery Act and/or he may compile such quotas and recommend them to the state regulatory body in such state, in which event it is hereby agreed that such quotas shall become operating schedules for that state.

Price Schedules

Article 3, Section 6(a) is amended to read as follows:

Section 6(a). For a test period of not to exceed 90 days pending the determination of the cost of crude petroleum and/or the products thereof, as hereinafter provided, the President may establish price schedules for petroleum and such products thereof as he may designate and for any or all modes of delivery thereof; it shall be an act of unfair competition to sell or otherwise dispose of or to buy or otherwise acquire petroleum or the products thereof at a lower price than the applicable price established by the President for the test period. Thereafter, in order to prevent the premature abandonment of wells of settled production, the growth of monopoly, the obstruction of interstate commerce, and otherwise to effectuate the purposes of the National Industrial Recovery Act, it shall be an act of unfair competition to sell or otherwise dispose of or to buy or otherwise acquire petroleum at a price below the recovery costs of such petroleum as determined by the Federal agency and approved by the President. In determining such recovery costs, the Federal agency shall ascertain the average cost of production of crude petroleum and shall determine the fair economic limits of the cost of production in stripper well areas which must be met to prevent premature abandonment of such stripper wells as may be found to be economically practicable of operation. And in order to carry out the purposes of this provision, the Federal agency shall also determine the average costs of economically refining, transporting, and distributing petroleum and any of its products for different areas and for different methods of marketing, and it shall be an act of unfair competition to sell or otherwise dispose of, or to buy or otherwise acquire, petroleum or the products thereof below the total costs as found by the Federal agency and approved by the President. Prices for crude petroleum established hereunder for different localities and different grades shall bear such relations as may be fair and equitable. And in order to effectuate the purposes of Section 3-A of the National Industrial Recovery Act, the President may prescribe maximum prices for petroleum or any of the products thereof.

Wildcatting

Article 3, Section 7, is amended to read as follows:

Sec. 7. Wildcatting shall not be prohibited because the future maintenance of the petroleum supply depends on new discoveries and new pools, but the shipment of petroleum or the products thereof in or affecting interstate commerce which was produced in a new field or pool which is not developed in accordance with a plan approved by the President is unfair competition and in violation of this code. For the purposes of this code a new field or pool is one discovered after January 1, 1933, and/or in which not more than 10 producing wells have been completed as of the effective date of this code.

Sales

Article 5, Rule 2, is amended to read as follows:

Rule 2. Whenever any merchant or vendor of any and all types of merchandise offers for sale at wholesale or retail motor fuels, motor lubricants, motor gasoline, heating oils or naphtha of a petroleum nature he shall, in so far as his business pertains to those products, be bound by the regulations of this code.

Equipment

Article 5, Rule 7, is amended to read as follows:

The equipment of the kind, type or description hereinbefore mentioned, furnished, loaned or leased before September 2, 1933, by any refiner, distributor, jobber or wholesaler to or installed with any retailer or comsumer shall, at the expiration of any contractual relation, and on the request of such retailer or consumer, be sold by such refiner, distributor, jobber or wholesaler to such retailer or consumer, or, in the absence of a sale to such retailer or consumer as herein provided, shall be sold by the refiner, distributor, jobber or wholesaler, who has made the loan, to any other refiner, distributor, jobber or wholesaler who is about to begin supplying petroleum products to such retailer or consumer, on the request of such other refiner, distributor, jobber or wholesaler, at the original invoice price, plus actual cost of installation, less a depreciation of 15 per cent per annum, but in no event at a price lower than that fixed in the schedule hereto attached, marked Appendix "A." In the event of a purchase as herein provided by such other refiner, distributor, jobber or wholesaler, such equipment may be loaned, leased or licensed to the retailer or consumer at such location by any new supplier subsequently acquiring title thereto.

This rule does not apply to the sale of equipment by the manufacturer thereof where such sale is not conditioned upon the purchase or use of petroleum products.

Article 5, Rule 31, is amended by adding thereto the following:

The rules contained in this article shall not apply to the sale and distribution of propane, butane and other liquefied petroleum gases.

Article 7, Section 4, is amended to read as follows:

Planning Committee

Sec. 4. The Planning and Co-ordination Committee shall elect a chairman and vice chairman from its own membership. It is also empowered to elect a secretary and a treasurer which offices may be held by one person and which officers may not be members of the committee. It shall also select the following subcommittees:

(a) Statistical committee.
(b) Production committee.
(c) Refinery committee.
(d) Marketing committee.
(e) Accounting committee.
(f) Labor committee.
(g) Adjustment and Interpretation committee.
(h) Transportation committee.
(i) Finance committee.

Article 7 is amended by adding a new Section 7 as follows:

Sec. 7. The Planning and Co-ordination Committee shall divide the country into such number of regional districts as it shall determine and appoint such subcommittees as in its judgment may be necessary to carry out the intent and purposes of this code, the members of such subcommittees to serve during the pleasure of the Planning and Co-ordination Committee. The chairman and vice chairman of the regional subcommittees shall be appointed by the Planning and Co-ordination Committee subject to confirmation by the President.

Article 7 is amended by adding a new Section 8 as follows:

Sec. 8. The Planning and Co-ordination Committee shall have authority to provide such offices and employ such assistants and clerical help and purchase such supplies, and shall provide for raising such funds from the industry, as may be necessary to finance its activities and effectuate the purposes of this code.

Credit Terms

Appendix B, Credit Terms, Section 1, Gasoline and Kerosene Sales, third paragraph, is amended as follows:

Service station deliveries.....Cash or coupons or payments net 15th proximo.

Appendix B, Credit Terms, Section 3, Lubricating Oil and Grease Sales, final paragraph, is amended as follows:

Service station deliveries.....Cash or coupons or payments net 15th proximo.

MAGNETIC STORM

Tucson, Ariz., observatory of the U. S. Coast and Geodetic Survey reports severe magnetic storm began at 3 a.m. (C.S.T.) on September 13 and ended at 8 a.m. (C.S.T.) September 14. Its telegram reads:

"Storm began thirteenth. Ten. Severe. Ended fourteenth. Fourteen."

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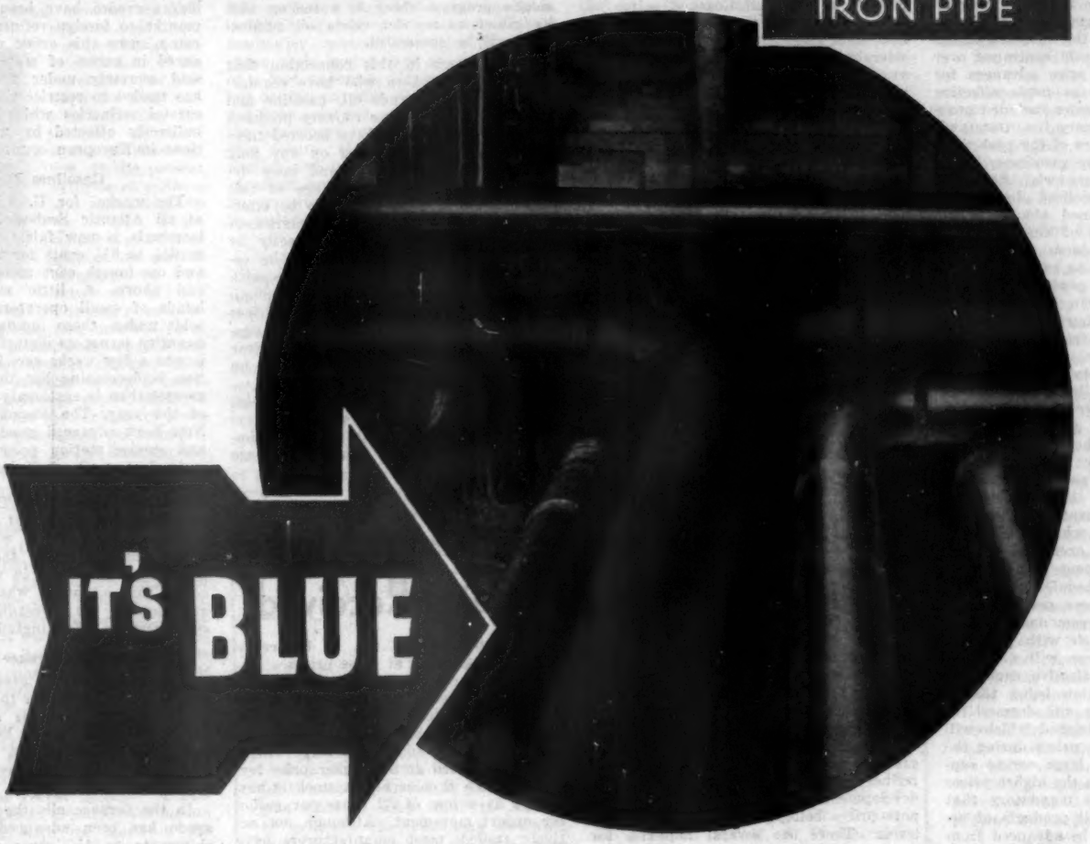

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REPUBLIC STEEL CORPORATION
GENERAL OFFICES YOUNGSTOWN, OHIO

Upward Trend Is Continuing in Eastern Markets; Expect Quotations to Advance Substantially

By C. O. WILLSON
New York Bureau, The Oil and Gas Journal

NEW YORK, Sept. 18.—The upward trend in the Atlantic Seaboard refinery and bulk terminal markets which has been underway since the adoption of the oil industry's NRA code continued over the past week. The price advances for the past seven days as made effective by one or more companies included practically the entire refinery list. Outstanding among the advances of the past week were the increases in gasolines, Diesel oils and furnace oil material. Scattered advances also materialized in several grades of steam refined stocks, bright stocks and all grades of neutral oils.

Although there is some disagreement among the local trade as to the probable price trends for all products over the next few months it can be said that a majority are expecting quotations to advance substantially from their present levels. Several angles are stressed in these discussions as to why conditions point to higher price levels in this territory. In the first place the higher crude prices that have been posted in all the principal fields over the past two weeks are of course directly reflected in the delivered costs to refineries in this territory. Many believe that within the near future a government price program will become effective which will establish a base price in excess of $1 per barrel for Mid-Continent crude which would mean posted schedules from 10 to 25 cents per barrel above present levels. Even if the price program does not materialize, those in touch with the market, feel confident there will not be a return to the levels effective earlier in the year, the assumption being that a balance between supply and demand for crude oil will be established which will prevent any collapse in prices during the winter months due to large excess supplies of crude oil. With the higher prices for raw material it is mandatory that prices on practically all products of refineries in this section be advanced from the levels effective during the summer months and earlier in the year.

Less Crude and Gasoline

In this connection there is some evidence that the recently announced government program of curtailing current crude oil output with a large reduction in the allowable production of Mid-Continent states is being reflected in local markets. It is no secret that the light oil market in this section, particularly gasoline, has been dominated by material coming from under-priced crude oil in East Texas. This situation reached a critical stage during the spring and summer months so that major refiners and distributors in this section could no longer ignore it and several adopted a policy of meeting this competition regardless of whether it appeared in the tank car or retail markets. The low priced gasoline coming from East Texas refineries was accumulated at Gulf Coast points and with low tanker rates was brought around to the Atlantic Seaboard centering in the New York Harbor. The delivered price of this gasoline was low enough so that the buyers were in a strong competitive position regardless of whether they sold it through their own bulk and service stations or offered to independent jobbers in tank car lots. The low tank car prices of the spring and summer are said to be largely due to this condition and it is also claimed by some that the introduction of third grade gasoline at service stations in East Coast states was directly due to competitive conditions brought about by low priced gasoline out of the Gulf Coast.

In addition to the East Texas gasoline and other refinery products considerable cheap crude oil has been made available to independent refiners with plants located at the Gulf Coast and along the East Coast. These refiners often have been in a position to undersell their larger competitors who paid posted prices for their crude oil and endeavored to reflect this fact in the tank car and consumer prices received for their plant products.

It is assumed that with the government curtailment program effective in Texas, Oklahoma and Kansas this low priced material—usually termed "bootleg"—whether in the form of crude oil or refinery products will cease to be a market factor here. This same assumption has been made in the past when a curtailment program has been inaugurated by the Government or some governmental unit with unsatisfactory results in many cases due to the fact that the programs failed of their objective. However, in the case of the Federal Government's program there is a feeling that its effort to restrict crude oil production will be successful.

It is known in this connection that refiners and brokers who have regularly been offering crude oil, gasoline and occasionally some other refinery products from the Gulf Coast, have boosted their prices and are not taking on any long commitments for October and later delivery. The market significance of this development if it continues to be effective is obvious. East Coast marketers will cease to be dominated directly by the Gulf Coast and prices can be established in this territory in line with operating costs and competitive conditions among the larger operators. Prices can be stabilized to the jobbing and consumer trade without the constant fear of competition of material dumped on the market from outside areas.

Those in touch with markets also point out that the Government's curtailment plan will aid this section by improving the export situation. Large quantities of East Texas and other Texas crudes have been sold in recent months to foreign refinery operators. In many cases this crude oil was oil produced in excess of state allowables and sold secretely under the market. This has tended to restrict the outlets for all coastal refineries which are directly or indirectly affected by marketing conditions in European countries.

Gasolines Higher

The market for U. S. Motor gasoline at all Atlantic Seaboard refineries and terminals is now fairly well established at 6¼ to 6½ cents for under 65 octane and one-fourth cent more for 65 octane and above. A little material in the hands of small operators is still being sold under these quotations but the quantity is not as disturbing a factor as it was a few weeks ago. Retail consumption is decreasing but the decline is no greater than is customary for this season of the year. The Standard Oil Co. of New York advanced gasoline tank wagon and service station prices one-half cent early last week and these prices have been accepted generally by other large and small distributors. There was some complaint last week that an independent operator in Brooklyn was secretly offering gasoline under the prices established by competitors in violation of the code. This situation was called to the attention of the Government's planning committee at Washington.

Kerosene and Furnace Oils Strong

Kerosenes and all grades of furnace oils have advanced over the past 10 days. Refiners state there is steady demand for 41-43 water white kerosene over a new price range of 5⅜ to 5½ cents. The prime white material is only one-eighth cent lower.

In the furnace oils the 36-40 (No. 1) grade has been advanced in tank car shipments to 4½ cents and the 32-36 (No. 2) to 4½ cents. The 21 gravity industrial fuel oil (overhead product) has been advanced to a low of 4 cents per gallon. These half-cent advances were made effective in other furnace oils.

With the furnace oil season now under way distributors feel the outlook for a heavy consumption is encouraging over a greater part of New England and New York. It is pointed out that with crude oil production reduced and the motor fuel consumption showing a seasonal decline, it is certain that refinery operations in this section will be curtailed. This will tend to reduce the present output of kerosene and furnace oils and with stocks not heavy these markets should continue strong through the fall and winter months.

Diesel and Bunker Fuels

On Friday, September 15, the Standard Oil Co. of New Jersey established a price of $1.95 per barrel for 28-30 Diesel fuel oil and the new price was immediately adopted by other sellers. This price which applies to the marine trade represented a 20-cent per barrel advance. This is one of the largest single advances to be made effective in this product. At the same time the price on tank car shipments of this product was advanced to 4½ cents at Bayonne, N. J. The demand for these products is steady.

The Bunker C market is steady following the recent advance to $1.10 per barrel. The supplies of this product in the hands of two large refinery operators in

(Continued on Page 39)

Additional Advances in Export Market With Many Inquiries Being Received

NEW YORK, Sept. 18.—Additional advances materialized in export markets over the past week with many inquiries reported for practically all products. Foreign buyers are familiar with the change in the domestic market situation due to the adoption of the Government's program to curtail output of crude oil and refinery products and realize that this development no doubt will result in export prices being placed at higher price levels. There are several inquiries for spot material and other buyers are anxious to negotiate long-time contracts on a flat basis. Actual sales have not been heavy, although at least two sizeable contracts for cylinder stocks were closed during the past week.

In the gasoline end most sellers are quoting around 5½ cents Gulf Coast for the 64-66, 375 endpoint grade. Similar advances have materialized in the higher endpoint and lower gravity grades and the stabilized grades of natural gasoline. The coastal market for coastwise shipment is in line with the export market. Those in touch with this market state that the advance in export prices is not due entirely to the change in the domestic situation. It is stated that less open market gasoline has been offered by Russia and Rumania and this has thrown several buyers back to the American market. Whether this situation is temporary or not is not known but there has been less resistance to price increases in the American market than was the case earlier in the year. Those in touch with this market expect it to move up and down largely independent of domestic prices should the latter be determined by government control. It is pointed out that American refiners will have to compete with the European prices if they are to maintain their present outlets. This is one of the situations pointed out by those who are opposed to price control in the United States on gasoline and other refinery products.

The 41-43 water white grade of kerosene for export and coastwise movement has advanced until it was quoted the first of the week at 4⅜ to 4½ cents. Offerings are small at these prices.

The advances in steam refined stocks and bright stocks for the week varied from one-half to 1½ cents per gallon. The market for these products continues active and both small and large orders are being placed at the higher price levels. The No. 8 color bright stock is now quoted at a low of 32 cents per gallon for export movement. Although not actively traded, most manufacturers have advanced their neutral oil quotations one or more cents from the recent levels. Paraffin wax prices are unchanged with little new business reported.

Imports Decrease

There was a large decrease in imports of crude oil and refinery products for the week ending September 9 compared with the week ending September 2 as shown in the accompanying table:

	Week ended—	
At Atlantic Coast ports:	Sept. 9	Sept. 2
Baltimore	85,000	152,000
New York	243,000	897,000
Philadelphia	230,000	109,000
Others	59,000	72,000
Total	617,000	1,230,000
Daily average	88,142	175,000
Daily average 4 weeks ended	135,500	173,714
Distribution of total imports:		
Crude oil	457,000	849,000
Fuel oil	160,000	381,000

California Receipts

Receipts of California products also showed a marked increase for the week ending September 9:

	Week ended—	
At Atlantic Coast ports:	Sept. 9	Sept. 2
Boston	.....	102,000
New York	113,000	190,000
Philadelphia	.....	119,000
Others	.....	230,000
Total	113,000	641,000
Daily average	16,142	91,571
Distribution of California receipts:		
Gasoline	113,000	595,000
Kerosene	.....	6,000
Fuel oil	.....	40,000
Total	113,000	641,000

Stabilization Well Under Way in Chicago Area; Market Structure of Future to Be Clear Cut

By R. C. CONINE
Chicago Bureau, The Oil and Gas Journal

CHICAGO, Sept. 18.—Stabilization of the refined petroleum product markets appears well under way in Chicago district in spite of the uncertainty, or perhaps for that reason, regarding the outcome on price-fixing in Washington. If the present attitude of refiners and marketers in the district is not merely a short-lived gesture, the market structures in the future will be clear cut and amenable to ordinary calculations. Today, at least, the involved f.o.b. district refinery prices, plus Group 3 and switching district freight charges, have given way to a straight Group 3 basis. That is, basic refinery prices shall be the Group 3 market plus freight to point of delivery. This eliminates, for example, such basic refinery price differentials, per se, as the 0.7 cent for Sugar Creek and the 0.2 cent for Wood River in relation to the Whiting base.

This development was anticipated several months ago in the program of fair competition initiated by Allan Jackson of the Indiana Standard company, and while at that time close adherence to the Group 3 open markets meant losses due to the subnormal postings growing out of unsual contracts and heavy liquidations by shoestring refiners and larger operators, present conditions favor profitable operations under the new arrangement. The danger now is that higher retail prices will tempt refiners and marketers to offer wider marginal guarantees and larger discounts to resellers. It was considered that the recent increase of half a cent in the Q.D.A. to authorized agents was in keeping with the spirit of the NRA, but further concessions will no doubt signal the return of sharp competition for outlets.

NRA Station Survey

The elimination of uneconomic units is a matter which promises to cause considerable commotion within the next few weeks. It is understood that agents of the NRA are making a survey of costs of putting gasoline through various types of service stations, particularly in localities where there is much duplication. One major refiner says that a check made by his company reveals that the cost of putting one gallon of gasoline through service stations ranges everywhere from 3.5 cents to 28.0 cents. It is pointed out that among the factors considered were amortization charges on properties bought during boom years and which have depreciated to 10 to 20 per cent of their former value. Some of the palatial service stations started well, but the springing up of "independents" enjoying wide margins and protection in the neighborhood soon ran these "one-stop" stations into the red. There are few observers, none that have been found so far, who believe that the major and semimajor companies will lop off uneconomic units and charge it up to future prosperity. Up to now, at least, the impression in Chicago district has been that gallonage means far more than profits. Just now there is only one point in the list of principal points in the territory where price cutting is thwarting the industry's recovery program. This is Evansville, Ind., where the normal price is 19 cents and the actual price is 17.5 cents on the regular grade. The operators blamed for this condition in Evansville have a contract with a semimajor company whereby they purchase their motor fuel at three-eighths of a cent under the Group 3 price of the low octane material. If this contract has not been renewed, it is understood that the agreement terminates at the end of this month. However, there are many similar and more discouraging contracts in effect and only time will tell if the buyers will yield more of their profits to undersell competition.

Price-Cutting Zones

There is no indication that the system of restricting price-cutting to zones within large metropolitan areas will be extended from Chicago and Detroit to such points as St. Louis, Kansas City, Minneapolis-St. Paul, Milwaukee and smaller cities where zoning might be applicable. In Chicago and Detroit the price cut zones are isolated from the "main stem." Zoning cannot be applied indescriminately as, for instance, the choice of Stony Island between Sixty-ninth and Seventy-ninth Streets, instead of the Ewing-Indianapolis Road district, would cause price cutting to spread throughout the entire South Side within a day. In the Chicago price cut zone the price is 1 to 1.5 cents under the normal Chicago postings.

Gasoline Advance Strong

Current advances in the gasoline markets, wholesale and retail, appear so firmly based that their rapidity is causing no comment of the kind which has weighted past improvements. The tank car markets in Chicago district give no indication that there is a huge surplus in the area and that jobbers have large supplies on hand. After a few misty days the weather has cleared up and a hot sun is keeping motorists on the highways just as it did before Labor Day. Consumption is still at a high level and an impartial view of the national picture indicates that further advances in the retail markets are the expected development.

Several distributors continue to buy although their storage is filled to capacity. As one of these marketers said, "I've got my tanks full, but I'm not going to touch them until I've decided that the peak price has been reached. The material I have cost me prices ranging from 3.5 to 4.5 cents, Group 3, and represents a neat future profit. Meanwhile, if I can pick up one to five cars at what I think is a low price I'll close the deal and even by the time the material gets to my customers I expect fractional advances to add to my profits." From this it would be seen that not only are prices moving up precipitately, but the sharpness of the advances is causing no fear of a relapse. This is in great contrast with operations of as little as a month ago.

Gasoline Tank Car Prices

Gasoline tank car prices Monday show advances of from a quarter to half a cent over last week's quotations, and give every indication of strength at these higher levels. The regular grade (white) moved up from a range of 5 to 5½ cents to a range of 5½ to 5¾ cents; the premium grade (colored or white) moved up from a range of 5½ to 6 cents to a range of 5¾ to 6¼ cents; the third grade (ranging below 61 octane) moved up from a range of 4¾ to 5 cents to a wider range of 4¾ to 5¼ cents. The 60-62 400 endpoint gasoline moved to a range of 4⅞ to 5¼ cents; the 64-66 375 endpoint material advanced from a range of 5 to 5¼ cents to a range of 5¼ to 5½ cents; the 68-70 360 endpoint gasoline moved up from a range of 5¼ to 5⅜ cents to a range of 5⅜ to 5⅝ cents. The fighting grade aviation gasoline is offered at a cent higher than the low octane U. S. Motor grade, 5¾ to 6¼ cents. One of the major companies names the followings prices outside of Chicago: Third grade, 5 cents; regular grade (white), 5.5 cents, and premium grade (colored), 6 cents. In Chicago the prices are 4.88 cents on the third grade; 5.66 cents on the white regular, and 6.12 cents on the colored premium grade. The Chicago prices on the octane specification grades present an anomaly.

Special Naphthas Stabilizing

Monday it appeared that the special naphtha tank car markets would eliminate at one stroke the numerous complications which have made these markets so difficult to follow. At least three of the principal sellers in the district and territory, Standard Oil Co. (Indiana), Deep Rock Oil Corp., and American Mineral Spirits Co., have switched to the Group 3 basis on special naphtha prices. Price readjustments have been completed, belatedly, in the wake of advanced crude oil postings. At this time there is only one price, although a range may be restored later. Spot market prices Monday were as follows: Cleaners naphtha, 6½ cents; lacquer diluent, 180-250, 7¾ cents; lacquer diluent, 140-200, 8¾ cents; rubber solvent, 6¼ cents; Stoddard solvent, 5¾ cents; V.M&P. naphtha, 6 cents; petroleum spirits, 5¼ cents.

The Chicago delivered prices are these prices plus the Group 3 freight of 2.44 cents without any other additions or subtractions. Thus, delivered Chicago prices in tank car: Spirits, 7.69 cents; V.M.&P. naphtha, 8.44 cents; cleaners naphtha, 8.94 cents; Stoddard solvent, 8.19 cents. The naphtha tank wagon prices were advanced by Standard of Indiana September 13 as follows: Stanisol, advanced from 13 cents to 15 cents; cleaners naphtha, advanced from 13 cents to 15 cents; V.M.&P. naphtha, advanced from 13.9 cents to 15.9 cents. Spirits remain at 11.9 cents. In order to obtain the laid-down price on any of the naphthas for

(Continued on Page 37)

DO YOU REMEMBER?

From The Oil and Gas Journal Files

25 Years Ago

September 20, 1908

Jack Ennis and Shorty Walker, of Beaumont, and Jess Fry of Corpus Christi, who went to Mexico to witness the Pearsons' burning well, have returned. The fire was extinguished by a cave-in. Mr. Ennis says the well produced more water in two months than the entire Spindletop Field did in seven years.

On September 1 there were 1,338 producing wells in the Glenn Pool, the largest field in the Mid-Continent. The wells average 35 bbls. per day. Most of the wells are pumping. One year ago there were 715 wells, all of them flowing and they averaged 172 bbls. per well per day.

20 Years Ago

September 25, 1913

Teams of eight oxen are used to move boilers and other heavy equipment in the Caddo, Louisiana, Field. The wagons have eight wheels, with very wide tires.

The Prairie Oil & Gas Co. is building a pipe line extension from Carrollton, Mo., to Alton, Ill. W. F. Gates, general superintendent, is in charge.

Judge Brewer of the Supreme Court of Oklahoma decides that drilling a well for oil and gas is not mining within the meaning of the state constitution.

Oklahoma is producing 169,000 bbls. of crude oil per day and Kansas 6,950 bbls. per day.

The American Petroleum Society is organized in Pittsburgh, Pa. C. D. Chamberlain, Cleveland, Ohio, is president; Robert Galbreath of Tulsa, vice president; Dr. Irving G. Allen of the U. S. Bureau of Mines, secretary.

F. A. Leovy, vice president in charge of all the pipe line, production and storage interests in the Gulf companies in the Mid-Continent, Gulf Coast, and Mexico, will move his offices from Beaumont, Tex., to Pittsburgh, Pa. Underwood Nazro, Mr. Leovy's assistant, will remain in charge in Beaumont, and Harry C. Hanzen will take up Mr. Nazro's duties as assistant. The change will be made in January, 1914.

10 Years Ago

September 20, 1923

The Powell Field in East Central Texas reached a production of 207,000 bbls. one day in the past week.

The Prairie Oil & Gas Company cuts crude prices and offers a new schedule: Below 33 degrees, 90 cents; 33 to 33.9 degrees, $1.30; 40 degrees and over, $1.75. All pipe line companies have prorated their runs. H. F. Sinclair, chairman of the Sinclair Consolidated, believes the price has reached bottom, as production is due for a decline.

The United States is producing 12 times as much oil per day as it did in 1900.

Engine Design Effects Octane Rating of Fuel

(Continued from Page 15)

fuels can be materially reduced, and permissible power increased, by better and more efficient cooling.

As shown in Table 2 (Part A), decreasing the temperature of charge (gasoline-air mixture) entering the cylinder from 300° to 100° F. resulted in a 35 per cent increase in power output and an increase of four octane numbers in the rating of a cracked gasoline. The increase in rating is due to the lower combustion-chamber temperature. The increase in power output is due to a combination of a lessened tendency to detonate, higher permissible compression pressure, and a greater weight of charge entering the cylinder.

The data given in Table 2 were obtained on a standard C.F.R. variable compression ratio engine directly coupled to an electric dynamometer. The engine was operated with wide-open throttle at a constant speed of 900 r.p.m. The carburetor was adjusted for maximum detonation and the compression ratio for maximum power.

Improvements in jacket cooling do not appear to be of marked importance except in so far as they tend to prevent depreciation and eliminate hot spots in the cylinder and combustion chamber. As shown in Table 2 (Part B), lowering the cooling water outlet temperature from 212° to 100° F. increased the fuel rating only two octane numbers and the power output 2 per cent.

Efficient jacket cooling of a Chevrolet engine in the laboratories of the Ethyl Gasoline Corp.[4] also resulted in only "a small increase in permissible compression pressure and an immeasurable effect on relative knock ratings." Water was introduced into the cylinder head at 24 different points and allowed to flow out at 12 points. Water for the cylinder block was introduced at the front end and discharged at the rear. The outlet water temperature was 70° F. for the head and 170° F. for the block.

On the other hand, internally cooled exhaust valves in a one-cylinder laboratory test engine, in the laboratories of the Ethyl Gasoline Corp., were found to increase the permissible power output approximately 8 per cent. Furthermore, soapsuds, when sprayed in large quantities on the underside of the piston in place of the usual motor oil lubricant, resulted in a further increase of 25 per cent in permissible power output.[5]

A distinct advance would be made if these findings as to lower mixture temperature, more efficient jacket cooling, internally cooled exhaust valves, and better cooled pistons were incorporated in automobile engine design.

It should be no great difficulty to develop satisfactory internally cooled exhaust valves. The problem of cooling the piston in actual practice by means of large quantities of a combination lubricant and cooling medium appears more difficult. It seems possible, however, to develop a system in which a lubricating oil of low viscosity and high viscosity index could be externally cooled, utilized for regular motor lubrication, and sprayed in large quantities on the underside of the piston for cooling. This would necessitate better piston-ring seal to prevent an excessive amount of oil from finding its way into the combustion chamber. The use of upper cylinder lubrication would insure adequate lubrication to the cylinder walls and piston rings.

3. Volumetric Efficiency

High volumetric efficiency permits greater power output per unit compression ratio and per cubic inch piston displacement. It also decreases the percentage of exhaust gases mixed with the fresh charge, thereby lowering the temperature of the charge before ignition. This decreases the tendency of fuels to detonate and depreciate in antiknock value.

From available data, the best car (the car that depreciated fuels least) had the highest volumetric efficiency as indicated by the following comparative figures on horsepower per cubic inch piston displacement (H.P./cu. in.):

TABLE 2

Equivalent octane No.—	Temp., ° F. Air inlet	Gaso.-air mixture	Cooling jacket	Brake horsepower	Lbs. fuel per hour	Lbs. fuel per B.H.P. per hour	Thermal efficiency per cent	Compression Ratio	Compression Pressure
				Part A					
66	100	300	212	2.45	1.70	0.69	19	6.0	111
67	100	200	212	2.80	1.75	0.62	21	6.4	122
70	100	100	212	3.30	2.00	0.61	22	6.7	130
				Part B					
66	100	300	212	2.45	1.70	0.69	19	6.0	111
68	100	300	100	2.50	1.70	0.68	19	6.0	111

	H.P./Cu. in.
Best car	0.63
Intermediate cars	0.29 to 0.49
Worst car	0.20

The best car (0.63) rated a cracked fuel higher than the Research Method; the worst car (0.20), lower than the Motor Method. Of the intermediate cars, the one with 0.49 H.P./cu. in. piston displacement more nearly checked the Research Method and the 0.29 the Motor Method.

As mentioned before, the cars which knocked hardest at the higher speeds depreciated fuels most. In all probability this was due to the higher combustion-chamber temperatures resulting from the lower volumetric efficiency at the higher speeds.

The Series 30 Ethyl engine operated at 900 r.p.m. and 345° F. jacket temperature provides an excellent example of increased depreciation with a decrease in volumetric efficiency. When the engine was operated at a compression pressure of 125 pounds per square inch with wide-open throttle, four commercial regular grade gasolines rated between 66 and 70 octane number. By increasing the compression pressure to 170 pounds per square inch with wide-open throttle, the ratings were lowered 6 to 7 octane numbers.

In the latter case it was necessary to throttle the engine more to produce the desired knock intensity. This resulted in higher combustion-chamber temperatures due to the decreased percentage of fresh charge taken into the cylinder, or, in other words, to the relatively greater percentage of exhaust gases in the charge immeditaely before ignition.

Supercharging and better scavenging are also advantageous in increasing volumetric efficiency, thereby decreasing combustion-chamber temperatures and depreciation of fuels.

4. Number and Size of Cylinders

The tendency in engine design is towards more cylinders of smaller bore. Small pistons permit a higher ratio of cooling surface to piston diameter. For this reason, engines of large bore attain higher piston and combustion-chamber temperatures. From all indications, a greater number of cylinders of small bore within practical limits seems desirable from the standpoint of knocking tendency and depreciation of fuels. For example, a four-cylinder car of large bore was found to depreciate fuels considerably more than did an eight-cylinder car of similar make and design with cylinders of small bore.

During the last few years the power output of engines per cubic inch piston displacement has been materially increased. The problem of the car manufacturer has been a comparatively easy one. The increase in specific power output has been accomplished in most cases by an increase in compression ratios and pressures, made possible by the increased antiknock properties of available motor fuels.

The problem of the refiner has been more difficult and expensive. A partial reversal of action is in order: Instead of the refiner producing a fuel to fit the average car, the car manufacturer should design his engine to fit available fuels, as he recently did with fuel-feed systems to prevent vapor lock.

This is not asking the car manufacturer and engine builders to do the impossible, nor will it work an undue hardship on them. It is entirely possible to step up power output and efficiency with available fuels without depreciation. The utilization of aluminium cooled heads, better jacket and piston cooling, internally cooled exhaust valves, greater volumetric efficiency, and more uniform distribution of the charge to each cylinder at a cooler temperature will go a long way towards solving this problem.

REFERENCES

[3]S.A.E. Journal, March, 1933, pp. 104-20. Proceedings—American Petroleum Institute, November 14-17, 1932, pp. 139-53. Proceedings—American Petroleum Institute, June 1-3, 1932, pp. 98-126.

[4]High-Speed Internal-Combustion Engine. D. Van Nostrand Co., Inc., New York, 1931, pp. 95-128.

[5]S.A.E. Journal, April, 1933, pp. 121-23.

[6]Ethyl Gasoline Corp Publication, May 23, 1932. Correlation of Knock-Testing Engine Ratings with Knocking in Automobiles.

[6]S.A.E. Journal, December, 1932, p. 463.

The Oil Man's Calendar

September

20-22—Atlantic City, N. J., National Petroleum Association, thirty-first annual meeting, Traymore Hotel.

25—Chicago, Natural Gas Department, American Gas Association.

25-29—Chicago, International gas conference and fifteenth annual convention, American Gas Association, Stevens Hotel.

27-28—Akron, Ohio, Ohio Petroleum Marketers Association, Hotel Mayflower.

29—Los Angeles, Calif., American Institute of Mining and Metallurgical Engineers, petroleum division, California group.

October

2-6—Chicago, National Safety Council, twenty-second annual congress, Stevens Hotel.

5—Chicago, National Marketers Association, Palmer House.

6-7—Dallas, Tex., American Institute of Mining and Metallurgical Engineers, petroleum division, Mid-Continent group.

11-13—Beaumont, Tex., U. S. Good Roads Association.

19-20—Tulsa, third annual National Road Oil Congress.

Louisville, Ky., Kentucky Petroleum Marketers Association.

24-26—Chicago, Ill., fourteenth annual meeting, American Petroleum Institute.

Kansas City, Mo., Big Four State Independent Oil Jobbers Association.

Tulsa, Mid-Continent Oil and Gas Association.

November

Los Angeles, Calif., American Association Petroleum Geologists, Pacific Section.

December

4—New York, fourteenth Exposition of Chemical Industries, Grand Central Palace.

Great Falls, Mont., Rocky Mountain Oil and Gas Association.

6-7-8—Roanoke, Va., American Institute of Chemical Engineers.

New York, American Society of Mechanical Engineers, National Aeronautic Meeting.

1934

January

6-13—New York, National Automobile Chamber of Commerce.

18—Oklahoma City, Okla., Okla-Petroleum Marketers Association.

25-26—Sioux Falls, S. Dak., South Dakota Independent Oil Dealers Association.

27-Feb. 3—Chicago, National Automobile Chamber of Commerce.

February

6-7—Des Moines, Iowa, Iowa Petroleum Association.

13-15—Columbus, Ohio, Ohio Petroleum Marketers Association.

March

Washington, D. C., American Society of Testing Materials.

April

19-20—Cleveland, Ohio, National Petroleum Association.

Greta Is Most Orderly Drilled Field in Texas

(Continued from Page 8)

pounds with the well flowing between 800 and 900 bbls. daily.

Peculiarly, relatively high tubing head pressures also are recorded, ranging from 700 to 1,400 pounds. This is indicative of a very light column of fluid, it being likely that the gas begins to come out of solution almost at the bottom of the hole. This is possible in that the gas is almost pure methane. The above conditions reflect the high permeability of the sand and assure a long flowing life fore the field if conditions are properly utilized.

Operators in the field, however, have voluntarily recognized these conditions and all are co-operating so far as possible to preserve these natural advantages. The fact that water appeared quickly in several wells which were opened for short periods on flow tests was convincing enough to all operators of the benefits and need of orderly and efficient production control.

The co-operative spirit of the operators was displayed at the recent proration hearing for the field when all agreed to consent to a pro rata distribution of allowables based on acreage. In the past in other fields there always has been considerable opposition to acreage basis proration plans and contestants have always been upheld in the courts in favor of the well potential basis of production allotments. In view of the uniformity of conditions and desire of operators to develop and produce the field to the advantage of the operators as a whole and to do away with the advantage of one over another, the acreage proration basis has been favored and all operators have consented they will not contest any acreage proration orders if such are issued by the Railroad Commission and that they will protect the commission if any outsiders attempt to contest the orders.

Most Orderly Drilled

Greta now is perhaps one of the most orderly drilled fields in the State, considering the great number of different ownerships and lease divisions, and of particular note is the fact that it is a field of independent operators. It has been only recently that any of the larger companies have been in the area. The field is being drilled on a 20-acre unit basis throughout. A large part of the area is in 50-acre tracts, each of which ordinarily would call for the drilling of three wells, one each on 20 acres and the third on the remaining 10 acres but the practice followed is that only two wells are being drilled on each 50 acres with the understanding that the owners under proration schedules be allotted for each well an additional production allowance to compensate for the undrilled 10 acres. This saves the cost of drilling

the third well on a 50-acre tract and at the same time gives the owner his full production allowance and drainage rights.

Gas-Oil Ratio

The only question which has come up so far has been concerning gas-oil ratio limitations. The Railroad Commission has sought to restrict the wells to a gas-oil ratio of 1,500 feet, basing this on an allowance of 2½ times the volume estimated in place in solution at 800 pounds saturation. The majority of operators are of the opinion that a 3,000-foot ratio should be permitted. The difference, however, is only of secondary concern as nearly every operator is attempting to cut the ratio to as low a figure as possible and with few exceptions every well in the field is well within the limits proposed by engineers of the Railroad Commission. The extra ratio maximum is asked by operators only with a view of getting a little temporary leeway during the early part of the field's life in a period in which it is difficult to adjust a well's flow to get the most efficient results. Only one well in the field is producing at a very sizable gas-oil ratio, the ratio on it being 10,500 feet per barrel. Engineers have suggested that possibly this well was set too high up in the upper gas horizon and that by reconditioning the well and blanking off more of the gas sands the well can be brought within the requirements. In efforts of operators to make full use of the water drive and control the water table rise all wells are being pinched back as rapidly as possible to a minimum and it is believed that all wells, except any which are not completed properly, will shortly adjust themselves to a gas-oil ratio far below the 1,500-foot limitations suggested.

The opposition to the potential basis of proration at Greta was expressed following a series of tests made by engineers of production of the various wells under different chokes. It was found that under chokes there was no way of determining relative potentials as each well behaved differently on different chokes and that wells which rated highest on one choke did not show up as well on another choke.

Stabilization Is Well Under Way in Chicago

(Continued from Page 35)

any destination it is not necessary to seek basic refinery prices at various points in the territory. The Group 3 price is in effect at all refinery points so that only the freight, Group 3, need be added to get the delivered price.

Kerosene Tank Car Markets

The kerosene tank car markets are moving up rapidly in sympathy with the other refined products. The 41-43 water white material advanced from a range of 2⅝ to 3 cents to a range of 3¼ to 3½ cents, and the 42-44 water white kerosene advanced similarly to a range of 3⅜ to 3⅝ cents.

Distillates and Fuel Oils

Distillates and fuel oils continue to move up strongly. The heavier fuels moved up for the first time in more than a month under increasing industrial demand. The industrial gas oil is one of the features of these markets, and was quoted Monday at 1⅞ to 2⅛ cents, an advance from a range of 1¾ to 1⅞ cents. The 32-36 straw zero advanced from a price of 2½ cents to a range of 2¾ to 3 cents; the 38-40 straw zero moved up three-eighths to half a cent to a range of 2⅞ to 3⅛ cents; the prime white 38-40 distillate advanced from a range of 2⅝ to 2¾ cents to a range of 3 to 3¼ cents. The 28-30 zero fuel oil advanced 10 cents a barrel to a range of 85 to 95 cents; the 26-28 zero material is scarce and quoted nominally at 75 to 80 cents, up from a range of 67½ to 75 cents; the 22-26 zero fuel oil is up 2½ to 5 cents at 65 to 70 cents; the 18-22 zero fuel oil advanced 2½ cents to 60 to 62½ cents. The below 18 fuel oil advanced 5 cents to a range of 45 to 50 cents.

Magnetometer Work Advancement Due to Better Instruments and Technique

By L. SPRARAGEN

Several years having elapsed since geophysical methods were first applied to geological problems, it is reasonable to assume that many improvements have been introduced both in instruments and interpretive technique.

This is particularly true with regards to the torsion balance, seismograph and magnetometer, all three of which are now an integral part of the geological departments of nearly every large oil company.

Several years ago, when the late Doctor Haseman first attempted to use the seismograph in Oklahoma, the results of his experiments, while indicative of possibilities, were not very successful. However, with the gradual introduction of seismographs in the salt dome areas of the Gulf Coast, new improvements were made and several years later it became possible to carry out seismograph work in areas of stratified geological section with remarkable success, thus broadening the scope of seismology from the relatively simple problem of exploration for salt domes to the extremely complicated problem of determining depths to certain formations.

In the same way the torsion balance instrument and technique have been improved, and problems once thought impossible to solve are now handled as regular routine.

Magnetometer Appeared Simple

What is true about the torsion balance and seismograph is even more applicable to the magnetometer, instrument and technique. It is unfortunate that the magnetometer appeared so simple and inexpensive to operate. The first introduction of this instrument was followed by extensive, hurried and inaccurate blanket surveys of large areas in rank wildcat territory.

To the layman it appeared that it was only necessary to secure an instrument, take the manufacturer's word for the constants and proceed to map "highs."

Several years of this misguided practice resulted in numerous dry holes, confusion, and finally suspicion and contempt for the magnetometer.

As a matter of fact, while the manufacturer was to blame in some instances where constants were not given as accurately as desirable for new instruments, the chief trouble was lack of appreciation on the part of the operator as to what the problem was that he was trying to solve.

Because of this lack of understanding on the part of the operator and directors of this phase of geophysical exploration, scarcely any attention was given to the fine details. Instrument constants were not chosen properly to fit the problem at hand, for as long as the instrument was in working condition the operator did not particularly care whether the constant was 20 or 30 gamma per scale division. Temperature coefficients were determined approximately and adjustments to the instruments while in the field were every day occurrences.

Now, however, with patience and constant research, it has been found that in many cases where the magnetometer is carefully used, the results that can be obtained are so accurate that the magnetometer is used more for advanced geophysical work now than in the years passed where the instrument was applied to general reconnaissance surveys only. It is therefore approaching the torsion balance in importance as an aid to the geologist and engineer, in many areas formerly detailed gravity surveys only appeared to be applicable for the problem on hand.

Determine Cause of Disturbance

It is quite a simple matter now to determine from a magnetometer survey whether the disturbance in the earth's vertical magnetic intensity is caused by an igneous plug or intrusion or whether the disturbance is due to some other cause.

It is the solution and interpretation of the results due to disturbances of other than igneous origin that are the real problem in magnetic surveys.

The question arises as to whether a certain geologic formation of high magnetic susceptibility and thicker than normal section may cause the disturbance recorded by the magnetometer, or whether the disturbance is produced by a section of normal thickness but abnormal dip.

Of course the susceptibility of a sample can be determined in the laboratory, but the trouble is that we must first have the samples. Where a test well has been drilled and cores taken and thickness of sections determined, then the laboratory determination of the magnetic properties (susceptibility) of the different cores can throw considerable light on the possible cause of the disturbance in the earth's magnetic field, but to attempt to interpret the magnetometer readings taken in a strange area without these cores, unless readily recognized as an igneous plug, or intrusion, is a difficult problem.

By far the greatest improvement in the magnetic method of exploration has been the introduction by the Askania Corp. of a magnetometer using a moving system with negligible temperature coefficient.

Prior to the introduction of this improved moving system the difficulties involved in magnetometer survey work were increased by temperature effects on the instrument. Early in 1928, in a series of articles prepared for and published in The Oil and Gas Journal, the writer pointed out the possibilities and desirability of reducing the temperature effects on the then existing instruments.

This was a tedious process and oftentimes necessitated complete reassembly of the various members of the moving system.

Cause of Inaccuracy

The early magnetic surveys were usually presented on maps contoured on a 25 or 50 gamma interval. Observations, as a rule, were made at least a mile apart, temperature corrections often amounted 50 or more gamma, particularly in southern states, where temperatures varied from 10 to 12 degrees between 8 a.m. and 1 p.m., and instruments were operated with temperature coefficients of 5 or 6 gamma per degree.

It is easy to understand then how surveys of this type should prove inaccurate and of little value except possibly in outlining the general shape of some sharply uplifted igneous plug.

In detail work, where it is desirable to map possible smaller folds or minor disturbances on the flanks of these large uplifts, the old methods would prove practical failures. A new and more careful consideration of these values have to be given to work of this type. Observation stations must be close together and readings must be accurate to within a 5 gamma limit. Magnetic observations made with this degree of accuracy can then be contoured on a 10 gamma interval on large scale maps, and beneficial information derived as to the minor disturbances, which in many instances have a close relation to the productive areas.

To secure results of this great accuracy, close limits of observation are necessary and now with the new improved type of moving system placed on the market, the greatest source of error, temperature effects, can be eliminated. It is now, perhaps for the first time for all practical purposes, possible to use a base station instrument for recording diurnal variations, and actually feel that the observations are true indications of the diurnal variation and not temperature effects.

Several years ago while the writer was in charge of magnetometer work for the Marland Oil Co., an experiment was conducted in the field to prove the inaccuracy of the method then commonly used for determining diurnal variation corrections. It was at that time customary to operate one instrument at a given base station, with observations at 10 or 15 minute intervals, while other members (usually three) operated in the field. From the base instrument observations it should have been possible to make diurnal variation corrections for the other three operating instruments.

Several weeks using this method showed that something was quite wrong, and in order to satisfy the writer it was decided to have all four operators set up relatively close together, however not close enough to cause interference between instruments, and all four obtain a diurnal variation curve for the same time and area.

The results were a revelation and far from satisfactory. Considerable discrepancy in the curves led to the abandonment of this method of obtaining diurnal variation corrections and led the writer to adopt the repeat station method for each observer.

Analysis of this experiment showed that the diurnal variation curves as thus obtained were too dependent upon temperature variations. In other words, the inaccurate results obtained were primarily due to temperature corrections.

Before the introduction of this new moving system it was quite desirable to make successive station observations as rapidly as possible, that is with respect to elapsed time between readings, the object being to eliminate large temperature variations between readings. With the new improvement this element is negligible and, while it is desirable to obtain as many stations as possible in a given time, the necessity of guarding against large temperature rise is not so important.

O. S. June, Oil Veteran, Dies at Lima, Ohio, Home

OIL CITY, Pa., Sept. 18.—O. S. June, 81, former vice president and general manager of the Buckeye Pipe Line Co. and a former resident of Oil City and vicinity, died at his home in Lima, Ohio, following a short illness.

Mr. June was one of the seven veteran pipe line men who met at the Wanango Country Club in July for what was intended to be the first of a series of annual reunions. Mr. June was instigator of the plan and called together the only seven survivors in the employ of the Union Pipe Line Co. between the years 1873 and 1876.

Mr. June started as a field man in the construction of pipe lines for the Union Pipe Line Co., working at Oil City, Parkers Landing, Clarion, Emlenton and Butler. He was first a utility man, then a skilled construction man and advanced to the post of telegraph operator. His advancement from that time was rapid.

With the discovery of oil in Ohio he was transferred there and made his headquarters at Lima. He became vice president and general manager of the Buckeye company and retained those positions until his retirement several years ago.

While at the reunion here last July Mr. June related how he worked with the late P. C. Boyle at Parkers Landing and told in detail of the laying of the first gas line from the Speechley well near Oil City to Titusville in the winter of 1866.

E. M. JAMES DIES

LOS ANGELES, Calif., Sept. 16.—The many friends of Edgar M. James were grieved to learn of his demise at Methodist Hospital in Los Angeles. Mr. James had been district engineer in Los Angeles for the Standard Oil Co. for 41 years.

Iraq Pipe Line Construction Proceeds Favorably Under Exceptionally Difficult Conditions

By A. E. MOCKLER

NEW YORK, Sept. 16.—Although engineers supervising construction of the Iraq pipe line are confronted with new and worrisome problems almost daily, construction of the mammoth desert pipe line project is progressing at a satisfactory rate, with the construction of pumping stations now about ready to get under way, according to a report on the progress of the construction program compiled by Anglo-Persian Oil Co.

That report follows:

After nearly six months of intensive operation, it is interesting to take stock of the position and to see how far the early fears and hopes have proved justified in the event.

Before a joint of pipe could be laid, it was very evident that considerable preliminary work would have to be done by the Stores and Transport Department, and it was arranged for them to be given a three months' start before the arrival of the welding gangs, so that when the latter arrived transport could still keep ahead of them. The major job of transportation in connection with the work is, of course, the stringing of the 120,000 tons of pipe between Kirkuk, Haifa and Tripoli; and it does not require any profound efforts of arithmetic to show that this alone involves well over 10,000,000 ton-miles of haulage from the railroads at Baiji, Homs and Mafrak. To this great weight of pipe have to be added as major items pipe dope and wrapping, telegraph material and station material, and the total, even excluding personnel, commissariat, minor stores and equipment, will amount to not far short of 23,000,000 ton-miles in major haulage alone, or the equivalent of 10,000 five-ton lorry loads from London to Edinburg.

Topographical Difficulties

The pipe line route is very far from being an arterial road, for its surface conditions vary between loose sand, crumbling gypsum, irrigated farm land, limestone grit, chert boulders, and last but not least the basalt lava. To add to the difficulties of the transportation staff, a large part of the desert becomes an impassible quagmire for a period of days several times each winter. To every section, therefore, has had to be allotted its most appropriate type of transport. In loose sand and irrigated water meadows the caterpillar tractor has proved most efficacious. In the better going, the 10-ton Thornycroft, the 20-ton White, and the giant 40-ton Marmon-Herrington have shown their worth, while in the lava country the Scammell has been found to be particularly suitable because of its efficient articulation, which enables it to clamber over boulders and in and out of dust holes. These, of course, do not exhaust the number of types of vehicles which have been tried and are being employed, but the rest generally partake of the characteristics of some or other of those already named. There are, of course, a few hill sections such as the slopes of the Jordan Valley, where tractors and winches only can be employed. It is interesting to know that the total capacity of the vehicles of 5-ton capacity and over employed on the work is 1,710 tons.

Up to May 15 some 7,000,000 ton-miles of major haulage had been achieved, resulting in 801 miles of pipe being placed in position ready for welding, this involving 4,750,000 pipe ton-miles by that date. Transport operations were severely hampered in Iraq during January and February, but apart from that there has been only occasional interruption. A certain amount of insecurity recently in the region between Homs and Palmyra has made it essential for vehicles of all types to travel in convoy with an escort, but apart from this, desert security has been complete.

Had to Use Gas Masks

There are, of course, difficulties and hardships for the transport personnel which would scarcely be found anywhere else in the world. In the lava country, for instance, the finely ground basal dust forms a cloud round every vehicle and with a slight following wind the drivers can sometimes see scarcely beyond the radiator cap for hours at a stretch. In order to avoid breathing the dust most of the drivers, both European and local, have adopted the Arab hafieh, which they wind round their faces in true Arab fashion, while gas masks have been tried with success—but only those who have worn a gas mask for hours on end under tropical conditions can appreciate the discomfort it causes. Another difficulty the personnel have to contend with is the Bedouin's predilection for getting a lift, and the risks he runs in order to do so are far more than those of the average urchin hanging on the back of a lorry at home. There is more than one case of tribesmen who have been refused a lift by the drivers, in accordance with the company's strict instructions, choosing their time and jumping on the lorry or tractor, as often as not by climbing the spokes of a wheel or by climbing the caterpillar tracks while in motion. The driver, all unconscious of what is going on in the racket and cloud of dust behind him, presently finds himself held up with a rifle and his life threatened by friends of the deceased. In one such case the unfortunate driver was sentenced to four months' imprisonment by a magistrate who, from his comments, had clearly never seen or heard a tractor in his life. An appeal quickly secured the driver's release.

The company now possess three airplanes capable of carrying seven, five, and four passengers, respectively, in addition to the crews. This has cut down the journey from end to end of the line from two days of rather tiring travel in a car to seven hours' flying time. It had been hoped that flying conditions would be found ideal for the desert in winter, but this, unfortunately, has not been the case. The change in color of the ground in the lava country, for instance, is probably responsible for inequalities of temperature, and as a result flying on any fine day is distinctly uncomfortable from midday onwards. The staff, however, is becoming very air-minded and the three airplanes are kept extremely busy. Two of the machines are equipped with radio and it is possible to send and receive messages during the journey by means of the company's own radio stations.

Communication Systems

The construction of the telephone line commenced in September, 1932, and was completed on April 24, 1933. The system consists of two pairs of wires, giving local and through telephone and telegraph circuits. Speech is remarkably good and even without the repeaters, which have yet to be installed, communications between Kirkuk and Haifa are generally possible. Pending completion of the land line system the desert gaps were bridged by radio, telegraph and telephone stations which are now operating at Baiji, Haditha, T-2 Pumping Station, Homs, Haifa, Mafrak, and H-4 Pumping Station. These stations work on 745 and 1,050-meter wave lengths with a normal range of 500 miles by telegraphy, and 300 miles by telephone. The service is excellent except in the evenings, when European broadcasting stations disturb the ether and the service suffers, in common with most receiving stations in eastern Europe and western Asia, from the powerful and inconsiderate broadcasting of the Russian propagana stations. Steps are, however, being taken to overcome this difficulty which, fortunately, is restricted to a few hours during the evening. The radio stations are particularly useful in keeping the administrative officials in touch with the company's airplanes.

The actual laying of the pipe line may be described briefly as a normal and stereotyped job carried out under abnormal circumstances. For this service four very highly specialized gangs have been recruited in America and these are supplemented by a few British and French welders and locally engaged machine operatives. To these must be added a corps of general laborers amounting normally to about 300 per gang, who give manual assistance as required and, in particular, in clearing the right of way. In sections where blasting is general extra men are required.

The first stage in the work of laying the pipe line is carried out by the right of way and ditching section men. They are equipped with two Buckeye ditchers and a power shovel. The modern ditcher consists of a power unit mounted on a caterpillar tractor, and behind it is an excavating wheel quaintly suggesting the stern wheel of a steamer, but, of course, revolving in the reverse direction. The type in use by the Iraq Petroleum Co. is capable of cutting a trench 26 inches wide by 6 feet deep and is able to lift boulders up to 15 inches in diameter. The spoil is carried by buckets on the periphery of the wheel and is dropped on a conveyor belt, which throws it on a neat and continuous heap on the left side of the trench as the ditcher moves slowly forward. The speed naturally varies with the quality of the ground and depth of the trench, but under average conditions approximately a mile per day can be trenched. Sometimes the ditcher strikes a limestone or basalt bed below the surface, and the wheel then is thrown upwards and trips, leaving the full depth of the trench to be completed by the blasting gang who are following behind.

Blasting for Pipe Line

Blasting appears to be a particular accomplishment of the natives in these countries, especially in Palestine and Transjordan, when the excavation of a flat spot on the hillside is the normal way of finding a building site and the stone wherewith to build. Their familiarity, however, does not appear to breed contempt, and considering the extent of the Iraq Petroleum Co.'s blasting operations, casualties have been remarkably few. The blasting gangs are equipped with compressed air drills and in the harder belts the practice is to fire from 100 to 300 shots at a time.

The blasters are followed by other laborers, who chip the trench to its proper dimensions and the way is then ready for the pipe welders. The pipe welding, it need hardly be said, is done by the most modern arc process, and it is interesting to see the various devices and tricks of the experienced welders to arrange their work under the conditions for securing the best results. In ordinary flat country, ten or eleven 40-foot joints of pipe are lined up on the surface. Pipes are swelled at both ends and in each joint is a sleeve covered by the swell, which not only assists in lining up the pipe, but also prevents "tear drops" from the weld forming on the inside, as these later would cause a serious increase in the flow resistance of the line in the course of many miles. These 11 joints are laid in line on dollies which resemble more than anything else robust roller skates laid upside down.

The first process is tack welding at three points on each joint while the pipe is rotated, so that the welder is always working on a surface facing upwards. The weld is then completed in two complete rotations of the pipe, while the welder continues to work at a point facing upwards.

At the end of this process we therefore have lying on the surface lengths of pipe about 120 yards long, and there is a succession of these strung out in front of the main tying-in squad. These 120-yard lengths are pulled by tractors one at a time up against the end of the continuous pipe and the open ends are, as before, lined up by means of the steel sleeve inside the swell. It will be evident that welding this joint is not quite so straightforward as the others, as it is impossible to rotate the fixed pipe and so keep the welder working in a comfortable position. The picked welder on this job, therefore, has to make a bell-hole weld, which means that in order to weld the underset he gets in a pit where the trench is widened out, while the pipe is laid on wooden skidding placed across the surface of the trench.

Protective Coatings

The next process is pipe protection, and the first stage of this is carried out by a mechanical pipe cleaner, which is carried on the pipe and cleans it with rotating wire brushes. At the rear end of this machine are rotating coir brushes which apply an even coat of primer as it trickles from a tank on the top of the machine. A protecting enamel or dope is applied as soon as the primer is dry, and this is a purely manual process. The dope is heated in tar babies and is applied hot by ladles to the upper side of the pipe. As it runs around the pipe it is applied evenly by a strip of canvas passed under the pipe in the form of a sling and worked by several laborers with much the same motion as the old diabolo string. The fact that to the lay mind the result is unbelievably smooth suggests a reason why it is not considered necessary to do this part of the process by machinery which, in the case of an involuntary stoppage, would be clogged by the setting of the dope. When the dope is set, but not yet hard, a frame carrying a roll of asbestos felt is trundled along the pipe and the asbestos felt wrapping is applied, spirally, like a puttee.

The pipe is now ready to be lowered into the trench and there is possibly a a mile or more of connected pipe to be backfilled. The interested spectator seeing this for the first time would probably be struck by the fact that the pipe is slightly snaked, i.e., it is supported on skidding above the trench at points about 70 yards apart, and between these it is

dropping into the bottom of the trench. It will thus be seen that the pipe is actually a little longer than the trench and there is a very definite and most important object in this, namely to get the pipe into the trench under compression and not in tension. Thus, even in the coldest weather when the pipe contracts, there will never be sufficient tension in the pipe to pull it apart. In cold weather no very special care is entailed, but in hot weather every endeavor is made to lower the pipe in the small hours of the morning, when the temperature is at its lowest. As a rule the earth is backfilled onto the pipe where it is lying on the bottom of the trench, and then the loops of pipe which still appear above the surface are lowered or, if necessary, pressed in by the weight of tractors while the backfiller quickly fills in the trench to retain it in position.

Bends and Backfilling

Occasionally, however, bends either in the vertical or horizontal plane are necessary to conform with a change in direction or an abrupt rise or fall in the slope of the ground. These bends are achieved quite neatly and simply by maneuvering the tractors, and, while some lift the line, others run over it and press it down into the trench, or pull it sideways until the foreman considers that the permanent set he requires has been taken.

The backfiller consists of another tractor carrying a scoop on a jib arm. By means of clutches and considerable dexterity the driver swings the scoop backwards and forwards, raking the earth back into the trench, and in a very short time there is nothing but the telephone line and a slight disturbance on the surface of the ground to indicate that the processes just described have actually taken place.

The system of labor control has been developed from the methods already found efficacious in the I.P.C. fields, and is not unlike that employed by the Anglo-Persian Oil Co. in Persia. As it was realized that men in considerable numbers would be required, suitable applicants were registered sometime beforehand and were each issued with a service booklet, so that when the time came requirements could be rapidly met from a preselected group of men. Aided perhaps by the general depression and by the good rates of pay given by the company, there has never at any time been any difficulty in obtaining the required number of men, though by no means always with the required qualifications. It has been remarkable, however, to note the aptitude with which the unskilled laborer has in many cases adapted himself to the work, and the speed with which the pipe line gangs are progressing pays eloquent testimony to the dexterity the laborers have acquired in the many and varied operations which they are required to perform. The company's labor includes representatives of every race in the five countries in which the company is operating, with a sprinkling of immigrants from countries as far apart as Russia and Italian Tripoli. They number at present just over 10,000, and it is not improbable that the peak of employment has yet to be reached.

The progress of the work on the pumping stations has been less spectacular than that on the pipe line itself, but at a number of station sites local material is already being collected. It is not expected, however, that the pumps and engines will arrive until the latter part of the summer.

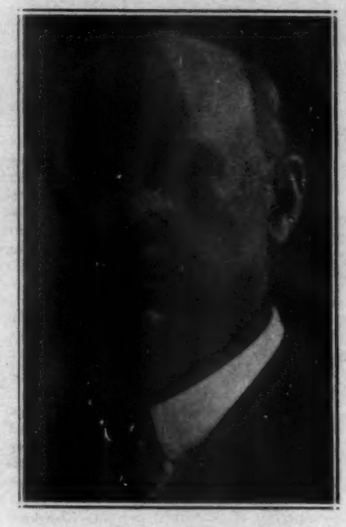
PIPE LINE VETERANS MEET

FINDLAY, Ohio, Sept. 18.—The Veterans' Association of Ohio Oil Co. and Buckeye Pipe Line Co. employes held their annual summer reunion at the Country Club and elected officers. Speakers were Otto D. Donnell, president of the Ohio Oil Co., R. Clint Cole and John McFadden of Casper, Wyo. The veterans are those on the retired lists of the two companies. The officers are: L. W. Oage of Lima, president; F. F. Young, Findlay, vice president, and Garrett Murphy, Findlay, secretary.

Richard S. Gray, Noted Mid-Continent Oil Man, Succumbs to Long Illness

Richard S. Gray, for many years assistant superintendent of the land department of the Prairie Oil & Gas Co., died at this home in Tulsa Saturday, September 16, at the age of 77 years. He had been ill about three years.

"Uncle Dick" Gray was one of the



R. S. GRAY

best known and best beloved of the old-timers in the Mid-Continent oil industry. Known for his sterling qualities of heart and mind, he was a welcome figure wherever he went, and his business called him to many oil fields and into conferences with big men of the industry. By many Mr. Gray's opinion on the value or lack of value of prospective oil territory was the last word, and geologists had a high respect for that sixth sense he possessed in approving or condemning wildcat territory.

"It is a liberal education to go out into the field with Uncle Dick," a young Prairie land man once told the writer. "His judgment is uncanny and the way he can back it up is convincing. I have learned more on one trip with him than I could in a year going alone or with some one else." And that expresses what many oil men thought of Mr. Gray as a land man.

Richard S. Gray was in the oil business from his boyhood until he was stricken with paralysis three years ago.

Born in Clinton Furnace, Clarion County, Pennsylvania, on July 22, 1856, he spent his after-school time around drilling wells and soaked up the atmosphere of oil. He went to work on a lease as a roustabout, then as a tool-dresser and was a driller before he was 21 years of age. He joined the Kahle Brothers, drilling contractors, and the firm of Kahle Brothers & Gray drilled many wells in Pennsylvania and in the Indiana fields.

Returning to Pennsylvania from Indiana, he bought the Valley Oil Co.'s refinery at Rouseville, near Oil City, and conducted it for years, but was forced to sell it during a period of high crude and low kerosene prices. He then joined Snowden & McSweeney, oil producers, who sent him to Kansas and Oklahoma to look over oil properties.

Mr. Gray wanted to return to his old business of drilling contractor and approached the late James E. O'Neil, president of the Prairie Oil & Gas Co. Mr. O'Neil made a counter proposition. He put Gray on the payroll of the Prairie, without defining his duties. He wanted him as a land man. The wills of the two men clashed. Gray pestered O'Neil for drilling contracts. He did not desire to be a land man. On the other hand O'Neil figured there were plenty of good drilling contractors but not many land men as good as Dick Gray, so he stood Gray off and kept making use of his excellent judgment on prospective leases. Mr. Gray made such a good record along this line that Mr. O'Neil gave him no chance to drill wells and finally Gray gave up the battle and settled down to duty in the land department of the rapidly growing Prairie company. There he remained until his last illness, doing a work that won him promotions and the never failing confidence of his superiors and of the landowners and oil operators with whom he did business..

Mrs. Gray, who before her marriage in 1882 was Miss Mary May Eccles, survives, together with their three sons, Frank S., Homer C. and Richard S., Jr.

The funeral was held Monday under Christian Science auspices, and burial was in Rose Hill Cemetery.

The above pictured group represented the Prairie Oil & Gas Co. in the Tulsa headquarters of the company in 1912, the year the picture was taken. Reading from left to right, top row, are T. R. Lott, crude oil purchasing agent; G. E. Casey, division superintendent of the pipe line; John C. Bennett, general superintendent of production; lower row: W. H. Luckfield, telegraph operator; Harry Gibney, combination chief clerk to Messrs. Bennett and Gray; George Coyle, general superintendent of pipe lines; Ed Latimer, assistant general superintendent of pipe lines; R. S. Gray, head of the land department. Messrs. Coyle, Gibney, Latimer and Gray, have passed away

Upward Trend Continues in the Eastern Markets

(Continued from Page 34)

this territory are said to be small with many inquiries from buyers anxious to secure flat prices over the remainder of the year or longer periods. The purchase of 5,000,000 bbls. from the Standard Oil Co. of California by the Standard Oil Co. of New Jersey indicates the supply position of the largest refiner in this territory.

Lubricants

Scattered advances have materialized over the past 10 days in lubricants for domestic movement. This movement is largely in this territory where the sales are mostly confined to motor oils and other blended oils. However, manufacturers have advanced their quotations in line with the recent changes made in export prices. No important changes in wax and petrolatum prices materialized during the week. The wax domestic demand is steady.

ROCKY MOUNTAIN FIELDS

Average daily production for the week ending September 16 follows:

WYOMING	
Salt Creek	18,820
Big Muddy	1,750
Badger Basin	40
Byron-Garland	1,100
Byron-East	40
Dallas Derby	490
Dutton Creek	70
Elk Basin	560
Ferris	10
Frannie	210
Grass Creek	shut in
Greybull	0
Hamilton Dome	850
Hudson	180
LaBarge	1,370
Lance Creek	210
Lost Soldier	1,880
Mule Creek	shut in
Midway	60
Notches	shut in
Oregon Basin	1,970
Osage	450
Pilot Butte	30
Rex Lake	shut in
Rock River	1,300
South Casper	630
Poison Spider	70
Teapot	30
Warm Springs	shut in
Total	31,350
MONTANA	
Buckley-Border	390
Cat Creek	750
Cut Bank	920
Dry Creek	910
Kevin-Sunburst	3,660
Lake Basin	50
Pondera	920
Total	7,600
COLORADO	
Florence	220
Fort Collins and Wellington	560
Ilex Dome	380
Moffat	580
Orchard	120
Rangely	80
Tow Creek	230
Total	2,380
NEW MEXICO	
Artesia	590
Cooper area	70
Empire area	0
Eunice area	930
Getty Pool	0
Hobbs	38,530
Hogback	210
Hospah	shut in
Jal	1,630
Lea area	2,150
Jackson	960
Maljamar	330
Rattlesnake	850
Table Mesa	80
Total	41,190
Total all fields	82,420
Total previous week	80,840
Difference	1,580

Drilling Activity Picks Up in West Texas Area; Cowden-Addis Well Flows 50 Bbls. an Hour

By L. E. BREDBERG
Fort Worth Bureau, The Oil and Gas Journal

FORT WORTH, Tex., Sept. 18.—Drilling activity in the West Texas district, picked up the past week, as 18 locations were made, 9 in Ward County.

The Cowden-Addis area in the northern part of Ector County now appears in the making of another large flush producing area for the district by the showing being made in Stanolind Oil & Gas Co.'s No. 3 J. M. Cowden, located in Section 34, Block 43, Township 1n, T.&P. Survey. This well topped the best lime pay at 4,138 feet, and started flowing at the rate of 50 bbls. per hour, accompanied with 2,102,000 feet of gas. An increase in oil and gas was had at 4,210 feet, and it is now drilling below 4,275 feet, with production estimated better than 600 bbls. per day. With this test showing for a good producer, and the pay showing good porosity, drilling activity is expected to pick up in this field as six major companies own the larger part of the protective acreage. Stanolind Oil & Gas Co.'s No. 2 E. F. Cowden, in the Addis area in Section 26, Block 43, Township 2s, is bailing from 10 to 15 bbls. of oil per day while drilling below 4,285 feet.

Broderick and Calvert and others' No. 1 E. F. Cowden, a wildcat drilling about 6 miles west of the Harrison-Addis discovery well in Section 25, Block 44, Township 2s, Ector County, is being watched with much interest due to this well checking higher on the lime than surrounding tests. It is reported checking about 58 feet higher than the Addis discovery well, and 21 feet higher than Stanolind Oil & Gas Co.'s No. 1 E. F. Cowden, a north offset to the Addis well. The test is drilling below 3,900 feet.

Pecos County

It is reported that Mid-Kansas Oil & Gas Co. is dealing with Fred Turner, Jr., and the State of Texas for 561 acres of land in the Yates Field, Pecos County, recently awarded to Turner and the State by a Supreme Court decision. Sproles and O'Neal, receivers for Fred Turner, have made locations for 13 wells, 4 of which are active at the present time. It is understood if the deal goes through that the Mid-Kansas Oil & Gas Co. is to take over these active tests and the other locations made by Sproles and O'Neal will not be drilled. Mid-Kansas Oil & Gas Co. is drilling four offset wells caused by the drilling in the vacancy strip, and have made several new locations. These, however, will not be drilled provided a deal is made.

Irion County

Two locations have been made in the producing area recently opened up by P. A. Johnson on his No. 1 Tankersley in Irion County. R. D. Covington has moved in machinery for his No. 1 Mitchell in Section 724, C. Winch Survey, one-half mile north of the discovery well. Perry Fox of Mertzon has spudded in on his Mat Roach lease in Section 1,026, H.E.& W.T. Survey. It is reported that P. A. Johnson is preparing to lay a pipe line out of this field to a loading rack on the Santa Fe at Mertzon to be connected to his discovery well, which is producing from a shallow sand at 1,372 feet. With the laying of this line other tests will no doubt be started in this area.

Runnels County

The McMillan Pool in Runnels County got another location the past week. Agnew & Sons have made location for No. 1 Fowler, located out of the northeast corner of Subdivision 23, Norvell Travis Survey, a diagonal southwest offset to B. C. Mann and others' No. 1 T. B. Wade which extended production in this pool a few weeks ago. This is the seventh location to be made within three weeks.

Big Lake

Big Lake Oil Co. has made two locations for deep wells in the Big Lake Field, Reagan County. Location for No. 14-C University was made in Section 25, Block 9, University Survey. No. 15-C University was made in the same section.

Winkler County

Wahlenmaier Petroleum Corp.'s No. 1 Leck, between the Leck Pool and the Hendrick Pool in Section 3, Block 26, P.S.L. Survey, Winkler County, is flowing 20 to 35 bbls. of oil daily while shut down for casing at 2,997 feet. An increase in oil was had from 2,960 to 2,997 feet. Further drilling in this area will reveal whether this is a separate field or whether these two pools will be joined.

Ward County

A small extension to the Gulf Hutchins well in the northern part of Ward County is being made by Eppenauer Drilling Co.'s No. 1 University, located in Section 2, Block 16. Pay was topped at 2,545-55 feet and 2,590-99 feet. An increase in gas at 2,635 feet blew the tools up the hole and operators are now fishing for tools with an estimated 1,500 feet of oil in the hole.

Upton County

Gulf Production Co.'s No. 103 McElroy in Section 197, Block F, C.C.S.D.& R.G.N.G. Survey, Upton County, is drilling below 6,700 feet. This test is being drilled in search for the Ordovician pay found in the Big Lake Field, Reagan County. Humble Oil & Refining Co.'s deep test in Pecos County is rigging up new boilers and is expected to start up within the next few days. Total depth is 4,521 feet.

WICHITA FALLS AND RANGER

Forty-two locations were made in the Ranger and Wichita Falls district the past week, 10 being made in the Ranger district and the rest in the Wichita Falls area.

Several good wells have been completed in Archer County from the 1,160-foot lime pay in southwest Archer County during the past two weeks. W. B. Hamilton of Wichita Falls completed five wells from this formation for an initial production of 922 bbls. per day, the best well being his No. 4 Ikard from the sandy lime pay at 1,155-65 feet, completed for a 487-bbl. well, with a total depth of 1,171 feet.

Daily average crude oil runs for the Wichita Falls district were 51,759 bbls., a decrease of 140 bbls. from the previous week.

PANHANDLE DISTRICT

Three new wells were started in this district the past week, all locations in Gray County. The Vulcan Oil Co. has cellar made for No. 1 M. H. Kinard in Section 41, Block 25, H.&G.N. Survey. Anderson and Bean have made location for No. 3 Vollmert in Section 140, Block 3, L&G.N. Survey. Cambrian Oil Co. is digging cellar for No. 2 Cole in Section 105, Block 3, I.&G.N. Survey. Four completions were reported, two being old wells recompleted.

WEST TEXAS COMPLETIONS

Ector County

Landreth Production Co. and Texas Co.'s No. 1 Holt, total depth 4,450 feet, plugged back to 4,387 feet, top of pay 4,350-60 feet, initial production 35 to 45 bbls. flowing through casing.

Howard County

American Maracaibo Oil Co.'s No. 5-A Settles, top of pay 2,326-85 feet, initial production 63 bbls. per hour, total depth 2,432 feet.

Ward County

Abell Brothers' No. 1-B Sloan, top of pay 2,633-40 feet, increase at 2,930-42 feet, 2,947-57, 3,005-12, 3,020-27, 3,027-30 feet, initial production 277 bbls. in 24 hours flowing through tubing, total depth 3,030 feet. Atlantic Oil Producing Co.'s No. 3 Johnson, top of pay 2,543 feet, initial production 20 bbls. per hour flowing through tubing, total depth 2,543 feet.

PANHANDLE DISTRICT COMPLETIONS

Gray County

Operators Refining & Producing Co.'s No. 1 Sackett (old well drilled deeper), shot 120 quarts 3,260-3,305 feet, initial production pumped 150 bbls., total depth 3,318 feet. Phillips Petroleum Co.'s No. 8 Jackson, drilled deeper from 3,033 feet, increase in pay 3,100-35 feet, initial production 20 bbls., total depth 3,135 feet; No. 1 Palmer, drilled plug at 2,822 feet, initial production 380 bbls., total depth 2,868 feet.

Wheeler County

Elbar Corp.'s No. 1 Noel, total depth 2,618 feet, plugged back to 2,496 feet, initial production 3 bbls. of oil and 1 bbl. of water.

NORTH TEXAS DISTRICT COMPLETIONS

Archer County

Fain & McGaha Oil Corp.'s No. 2 Fain & McGaha, oil sand 1,785-90 feet, initial production 125 bbls., total depth 1,790 feet; No. 5 Fain & McGaha, oil sand 1,777-88 feet, initial production 60 bbls., total depth 1,788 feet; No. 2 Jackson, oil sand 1,797-1,805 feet, initial production 25 bbls. of oil and 50 bbls. of water, total depth 1,805 feet. A. Kriss' No. 3 Hughes, dry and abandoned, total depth 635 feet. E. J. Stump and others' No. 4 Wilson, oil sand 1,503-05 feet, initial production 184 bbls., total depth 1,505 feet. Texas Co.'s No. 1 Wilson, dry and abandoned, total depth 1,500 feet. Anderson and others' No. 3 Abercrombie, oil sand 1,014-18 feet, initial production 32 bbls. in nine hours, total depth 1,018 feet. Bonner Oil Co.'s No. 7 Ray, oil sand 1,118-25 feet, initial production 95 bbls., total depth 1,125 feet. L. T. Burns' No. 3

(Continued on Page 47)

Wildcat Operations in West Texas

Week Ending September 18

Company, well, farm name, section and block—	Remarks:
BREWSTER COUNTY	
C. M. Joiner's No. 1 McIntyre	Drlg. below 1,000 ft.
COKE COUNTY	
C. D. Hagerty et al's No. 1 Gaston, in Joseph Young Sur. No. 11	Drlg. 710 ft.
CONCHO COUNTY	
Mintex Oil Co.'s No. 2 Waring Estate, 660 ft. from N line, 150 feet from W line SW ¼ Sec. 2120, A. T. Robinson Sur.	Running 10-in. csg. 1,173 ft.
CRANE COUNTY	
Loffland Bros.' No. 1 Tubbs, 1,324 ft. from N line, 1,320 ft. from W line, Sec. 9, Blk. 27-B, P.S.L. Sur.	Drlg. 2,675 ft.
ECTOR COUNTY	
Broderick & Calvert et al's No. 1 E. F. Cowden, 2,240 ft. from E line, 330 ft. from S line of Sec. 25, Blk. 44, Twp. 2s, T.&P. Sur.	Drlg. 3,885 ft.
Gilpen et al's No. 1 B. H. Blakeney, 330 ft. from S and 440 ft. from E line of Sec. 32, Blk. 43, Twp. 1n, T.&P.R.R. Sur.	S.D. 850 ft.
Landreth Production Co. & Llano Oil Co.'s No. 1 O. B. Holt, 660 ft. from S and W lines of N half of Sec. 20, P.S.L. Sur.	Running csg. at 3,846 ft.
Moran's No. 1 R. W. Smith, NW cor. of Sec. 12, Blk. 43, Twp. 1n, T.&P.R.R. Sur.	Drlg. 4,425 ft.; swabbed and flowed 30 bbls. of oil in 4 hrs.
Stanolind Oil & Gas Co.'s No. 2 E. F. Cowden, 660 ft. from N and W lines of Sec. 26, Blk. 43, Twp. 2s, T.&P.R.R. Sur.	Drlg. 4,215 ft.
Stanolind O. & G. Co.'s No. 3 J. M. Cowden, 1,980 ft. from N and E lines, Sec. 34, Blk. 43, Twp. 1n, T.&P.R.R. Sur.	Drlg. 4,229 ft.
Fred Turner's No. 1-B F. V. Addis, 440 ft. from the E line and 330 ft. from S line of Sec. 35, T.&P.R.R. Sur., Blk. 43, Twp. 2s	Cellar.
FISHER COUNTY	
Condor Pet. Co.'s No. 1 Holley, 1,170 ft. W and 660 ft. from N lines of E half, Sec. 6, Blk. R, W. E. Richardson Sur.	Moving in material.
Southern Oil Co.'s No. 1-A Pardue, 2,310 ft. from S and 990 ft. from E lines of Sec. 202, B.B.&C. Sur.	Fishing; T.D. 2,635 ft.
GLASSCOCK COUNTY	
Schermerhorn Oil Co.'s No. 6 Kloh, 330 ft. from S line and 1,980 ft. from E line of Sec. 13, Blk. 33, Twp. 2s, T.&P.R.R. Sur.	Location.
HOWARD COUNTY	
Donnelly & Norman's No. 1 Magnolia Petroleum Co. (Bell), 330 ft. from N line and 330 ft. from W line of the N half of SW of Sec. 12, T.&P.R.R. Sur., Blk. 30, Twp. 1s	Drlg. 1,070 ft.
L. C. Harrison et al's No. 2 Texas Land & Mortgage Co., 2,310 ft. from E line and 330 ft. from the S line of Sec. 4, T.&P.R.R. Sur., Blk. 30, Twp. 1s	Location.
Joe Rusk et al's No. 2 G. M. Dodge Estate, 330 ft. from N line and 2,310 ft. from the E line of Sec. 9, H.&T.C.R.R. Sur., Blk. 30, Twp. 2s	Location.
Southern Oil Co.'s No. 1 Denman, 2,310 ft. from N line and 330 ft. from W line of Sec. 10, Blk. 30, Twp. 1s, T.&P.R.R. Sur.	Location.
Southern Oil Co.'s No. 1 Denman, 1,650 ft. from N line and 330 ft. from W line of Sec. 14, Blk. 30, Twp. 1s, T.&P.R.R. Sur.	Location.
IRION COUNTY	
R. D. Covington's No. 1 Mitchell, 150 ft. from S line and 150 ft. from W line of Sec. 724, C. Winsch Sur.	Location.

(Continued on Page 43)

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THE REPUBLIC SUPPLY COMPANY
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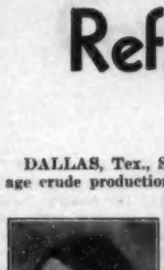
Ask Ten Million Back Allowable in East Texas; Refineries Seek Injunction on Filing Reports

By L. E. BREDBERG

DALLAS, Tex., Sept. 18.—Daily average crude production for the East Texas Field during the week ending September 11 was 553,703 bbls., a decrease of 59,358 bbls. from the previous week. These figures represent only three days under the new 25 per cent reduction in per well allowable which was ordered by the Railroad Commission last week. Just how much the production has been cut will be shown by a better figure in next week's report. Daily average distribution was 548,279 bbls., daily refinery runs averaged 44,803 bbls., while main pipe lines transported 502,370 bbls.



The Railroad Commission reports that claims amounting to 10,000,000 bbls. of "back allowable" oil have been filed with the commission during the past several weeks by operators in the field. The following figures were released by the commission pertaining to back allowables: Accruing through Sunday shut downs, 1,000,000 bbls.; voluntary shut downs protesting of 10-cent oil, 1,500,000 bbls.; no pipe line connections, 1,000,000 bbls.; lack of facilities, 1,460,000 bbls.; miscellaneous claims, 4,940,000 bbls.; other claims, 50,000 bbls. Decision about running this oil will be made about October 1 by the commission. The commission has estimated that a little over half of the above figures represents legitimate claims.

Refineries File Suit

Nine other East Texas refineries have filed suit against A. D. Ryan, J. Howard Marshall and S. D. Bennett, asking for a temporary restraining order and interlocutory injunction against the Federal officers from requiring daily reports from the refineries. The case was styled Locke Refining Co. and others vs. A. D. Ryan and others, and the same grounds were alleged in this suit as the one filed recently by the Panama Refining Co., which case, together with this latest suit, will be tried at Tyler October 2.

Three producers in the field alleged to have overproduced their wells were fined $10,000 for the violation. This is having a telling affect on the movement of "hot" oil from the field, and is gradually closing the last remaining leak. Operators in possession of "hot" oil have been advised by Neal Powers that if the State is to give any consideration to applications on the part of producers for the moving of illegal or commingled legal and illegal oil in storage, they must file sworn statements as to the amount, when and where produced and other data required. Some 60,000 bbls. of "hot" oil was involved in one case.

Major companies continue solicitations of pipe line connections at a fast pace. Many companies have put men in the field for this work alone. Humble Oil & Refining Co., which a few weeks ago turned over to the Stanolind Crude Oil Purchasing Co. many connections, has connected with 30 wells in the Kilgore townsite formerly served by the Magnolia Petroleum Co.

Field activity decreased a little during the week, 60 completions being reported and 63 new locations made.

The possibility of another Woodbine Field being opened in East Texas seems better due to the reported coring of saturated sand in Tide Water Oil Co. and Texas Seaboard Oil Co.'s No. 1 Long Lake Plantation, in the southwest part of Anderson County, in the Simon Sanches Survey. The core, reported taken from 5,217-27 feet, is said to have contained enough saturation to warrant setting pipe. Pipe will probably be set at the top of the Woodbine sand, reported topped at various places, some calling the top at 5,147 feet, and others 5,149 and 5,152 feet. The test has been somewhat of a mystery as very little information has been given out, and one guess is good as another as to whether it will make a well. It has been a natural condition for wells drilled in this part of the State to get some kind of a showing at around this depth. Shell Petroleum Corp.'s No. 1 Phillips, in Leon County, drilled a few months ago and completed for a dry hole, contained a good saturated core but failed to produce.

This Anderson County test was drilled on geological and geophysical research work and the outcome will have much bearing on future drilling in this area.

Shell Petroleum Corp. has been unsuccessful in trying to free stuck drill stem in its No. 1 Beggs, in the John Carter Survey, Leon County. It is reported it will skid derrick and start a new hole if it does not free this drill stem.

Roeser & Pendleton's No. 1 L. R. Billett, in the Cecil Bobo Survey, in Henderson County, topped the Woodbine sand reported at 5,048 feet, and is now drilling at this depth. It is credited with showing about a 471-foot interval between the base of the Austin chalk.

Henderson County

Pure Oil Co.'s No. 1 Ferguson, in Henderson County, formerly operated by McElreath and Suggett, appears now to be a dry hole after being plugged back to 4,317 feet, where a drill stem test tested salt water. This test was drilled to 4,983 feet, Georgetown lime, when operated by McElreath and Suggett, and was plugged back to 4,180 feet and tested from this depth to 4,330 feet, the well still showing salt water. It is reported the operators will plug back to the top of the Woodbine sand and test at this depth, which was reported to have been 4,191 feet.

Ed W. Bateman's interesting test in Leon County is still fishing for drill stem at 5,969 feet. This is in the Mary Elam Survey.

Clark and Butler have made location for their No. 1 W. T. Cooke in the Sorrell Survey, 7 miles southeast of Hallesville in Harrison County.

In San Augustine County, Morrison and Davis have spudded in on their Lowery lease in the Sublett Survey, 4 miles west of Broddus.

Van Field

Three locations have been made in Van Zandt County. B. F. Frost and others have a location for No. 1 G. J. Luther in the M. Gross Survey; Gray and Williams and others are starting No. 1 Paschall in the D. Y'Barbo Survey, 5 miles northwest of Jackson and George Ray and others have made location for No. 1 W. C. Wilson, in the H. Cotes Survey, 6 miles west of Myrtle Springs.

East Central Texas Wildcats

Week Ending September 18

ANDERSON COUNTY

Company, well, farm name, section and block—	Remarks:
Tide Water Oil Co. and Seaboard Oil Co.'s No. 1 Long Lake Plantation, 3,700 ft. due S of S cor. of Tom Reeves estate, 97-ac. tract, Simon Sanches Sur.	S.D. 5,227 ft.; to set pipe.

BOWIE COUNTY

R. W. Lynn and W. R. Rolfe's No. 1 Mrs. R. D. Hart, 330 ft. out of NE cor. of Hart 20-ac. tract, 1 mile E of Nash, Thomas Price Sur.	Location.
Lee Timberlake et al's No. 2 Tidwell (old well to be drilled deeper), 2,310 ft. N and 665 ft. W of SE cor. of survey, L. M. Rice Sur.	S.D. 3,010 ft.

FRANKLIN COUNTY

Van Emon et al's No. 1 O. S. Maxton, 910 varas W and 910 varas S of NE cor. of survey, John Brown Sur.	Derrick.

GREGG COUNTY

Arcadia Refining Co.'s No. 1 R. M. Wood, 100 ft. W of Republic's No. 1 Wood in Blk. No. 134, H. R. Hokit Sur.	Rig up.
Atlantic Oil Producing Co.'s No. 11 Andrews, 330 ft. from N and E lines of lease, William Hyde Sur.	Location.
Atlantic Oil Producing Co.'s No. 5 Barton, 1,630 ft. from N line and 4,950 ft. from W line of survey, D. Sanches Sur.	Shale 1,000 ft.; drlg.
Atlantic Oil Producing Co.'s No. 3 Foster, 780 ft. from N line and 160 ft. from E line of survey, W. G. Painter Sur.	Rig up.
Day and Armstrong's No. 2 E. L. Walker, 300 ft. from N line and 2,300 ft. from E line of survey, M. Dillard Sur.	Derrick.
East Texas Refining Co.'s No. 3 D. G. Sparks, 330 ft. from W line of lease and 660 ft. SE of No. 1, H. Kirk Sur.	Shot 20 qts.; T.D. 3,676 ft.
Lonnie Glasscock's No. 1 Whately, 1,100 ft. from S line and 200 ft. from W line of survey, William Robinson Sur.	Drlg. 895 ft.; shale.
Lockner and Hubbard's No. 1 Doby, 4,400 ft. from N line and 4,320 ft. from E line of survey, W. H. Castleberry Sur.	7-in. csg. 3,445 ft.; waiting on cmt.
Payne et al's No. 1 Swain Holcomb, 1,980 ft. from S line and 1,170 ft. from W line of survey, H. R. Hokit Sur.	T.D. 3,618 ft.; waiting on cmt.
A. L. Slaughter's No. 1 R. B. White, 480 ft. from N line and 30 ft. from E line of survey, C. H. Alexandria Sur.	T.D. 3,536 ft.; waiting on cmt.
Sun Oil Co.'s No. 9 A. S. Morton, 330 ft. from N and W lines of lease, S. Baggett Sur.	Shot 30 qts.; no results; shot 50 qts.; T.D. 3,485 ft.
Sun Oil Co.'s No. 5 J. T. Elder, 330 ft. from W line of lease and 660 ft. S of No. 4, John Wilkerson Sur.	Derrick.
A. W. Tarrant's No. 3 Sabine River, Tract No. 1, 430 ft. W and 540 ft. N of SE cor. of M. Dillard Sur.	Derrick foundation.

HENDERSON COUNTY

Campbell and Champlin's No. 1 R. S. Ansley, 105 varas S and 633 varas W of NE cor. of lease, 6 miles SE of Buffalo, N. H. Thompson Sur.	Derrick.
Laco Oil Co.'s No. 1 John Martin, 400 ft. from N line and 350 ft. from E line of 109-ac. tract, Robert C. Morris Sur.	T.D. 4,640 ft.; shale.
McElreath and Suggett et al's No. 1 Ferguson, 330 ft. out of most southerly NW cor. of 352.5-ac. tract, William P. Wyche Sur.	T.D. 4,314 ft.; S.D.
Roeser & Pendleton's No. 1 L. R. Billett, 330 ft. from N line and 2,310 ft. from E line of survey, Cecil Bobo Sur.	S.D. 3,640 ft.; chalk.

KAUFMAN COUNTY

I. W. Lewis et al's No. 1 David Clark, 2,305 ft. from S line and 1,953 ft. from E line of 320-ac. tract and survey, S. Edens Sur.	Shale 200 ft.
J. M. Scott et al's No. 1 Pannill, 2,550 ft. from NE line and 6,000 ft. S of Texas Midland Railroad, A. Cherino Sur.	T.D. 3,010 ft.; sandy shale.

LEON COUNTY

Bateman et al's No. 1 A. C. Carlyle, 150 ft. out of NE cor. of survey, Mary Elem Sur.	T.D. 5,957 ft.; now fishing for drill stem.
Shell Petroleum Corp.'s No. 1 Beggs, center of 123.5-ac. tract, John Carter Sur.	Fishing; T.D. 5,305 ft.

(Continued on Next Page)

EAST TEXAS COMPLETIONS

North Gregg County

Amerada Petroleum Corp.'s No. 7 Bumpass, top sand 3,548 feet, initial production 60 bbls. per hour through open tubing, total depth 3,578 feet. Arkansas Fuel Oil Co.'s No. 11 W. T. Burnside, top sand 3,467 feet, initial production 53 bbls. in 30 minutes through 1-inch tubing choke, total depth 3,492 feet; No. 12 Burnside, top sand 3,475 feet, initial production 60 bbls. in 30 minutes through 1-inch tubing choke, total depth 3,500 feet. Atlantic Oil Producing Co.'s No. 15 Duncan, top sand 3,638 feet, initial production 80 bbls. per hour through open tubing, total depth 3,696 feet; No. 47 Judge, top sand 3,507 feet, initial production 85 bbls. per hour through open tubing, total depth 3,531 feet; No. 50 Judge, top sand 3,502 feet, initial production 77 bbls. per hour through open tubing, total depth 3,528 feet; No. 51 Judge, top sand 3,500 feet, initial production 85 bbls. per hour through open tubing, total depth 3,532 feet.

East Texas Oil & Refining Co.'s No. 10 Hindman-Guy, top sand 3,620 feet, initial production 60 bbls. in 30 minutes through open tubing, total depth 3,650 feet. Faith Oil Co.'s No. 2 Weneker, top sand 3,640 feet, initial production 20 bbls. in 30 minutes through open tubing, total depth 3,661 feet. Fleming & Kemble's No. 6 J. Barnes, top sand 3,678 feet, initial production 75 bbls. per hour through open tubing, total depth 3,712 feet. Gregg Oil Co.'s No. 1-J T.P. Railroad, top sand 3,561 feet, initial production 95 bbls. per hour through open tubing, total depth 3,593 feet. Heyser & Heard's No. 8 Hindman and Guy, top sand 3,647 feet, initial production 75 bbls. per hour through open tubing, total depth 3,666 feet.

Heyser & Heard's No. 3 L. V. Tuttle, top sand 3,500 feet, initial production 75 bbls. per hour through open tubing, total depth 3,534 feet. Howard Petroleum Co.'s No. 4 Stuckey-Thrasher, top sand 3,535 feet, initial production 75 bbls. per hour through open tubing, total depth 3,565 feet. Humble Oil & Re-

fining Co.'s No. 7 C. C. Clemens, top sand 3,620 feet, initial production 49 bbls. per hour through three-quarters inch tubing choke, total depth 3,644 feet. Magnolia Petroleum Co.'s No. 13 Brawley, top sand 3,486 feet, initial production 110 bbls. per hour through open tubing, total depth 3,508 feet; No. 12 W. E. Jones, top sand 3,663 feet, initial production 100 bbls. per hour through open tubing, total depth 3,683 feet. Sabinos Oil Co.'s No. 3-A Falvey, top sand 3,694 feet, initial production 90 bbls. per hour through open tubing, total depth 3,728 feet.

Selby Oil & Gas Co.'s No. 18-B Snavely heirs, top sand 3,562 feet, initial production 75 bbls. per hour through open tubing, total depth 3,585 feet. Snowden & McSweeney's No. 5 M. Bonner, top sand 3,581 feet, initial production 90 bbls. per hour through open tubing, total depth 3,595 feet. Stanolind and Simms' No. 8 P. McGeorge, top sand 3,455 feet, initial production 51 bbls. in 65 minutes through open 2-inch tubing, total depth 3,494 feet. Sun Oil Co.'s No. 8 M. Thomas, top sand 3,469 feet, initial production 21 bbls. in 15 minutes through open tubing, total depth 3,530 feet. Tide Water Oil Co.'s No. 23 Lake Devernia, top sand 3,487 feet, initial production 75 bbls. per hour through open tubing, total depth 3,534 feet; No. 7 B. Moore, top sand 3,516 feet, initial production 16 bbls. in 10 minutes through open tubing, total depth 3,550 feet.

Finely and Dyke Oil Co.'s No. 2 G. H. Blackman, top sand 3,691 feet, initial production 39 bbls. in 30 minutes through open tubing, total depth 3,693 feet. Hiram Reed's No. 3 R. Lacy, top sand 3,536 feet, initial production 85 bbls. per hour through open tubing, total depth 3,578 feet. Rhoads Drilling Co.'s No. 5 Sabine River, top sand 3,500 feet, initial production 50 bbls. in 30 minutes through open tubing, total depth 3,614 feet; No. 13 Sabine River, top sand 3,550 feet, initial production 50 bbls. in 30 minutes through tapered tubing, total depth 3,578 feet. Shults, Receiver's No. 1 Tom Bell, top sand 3,719 feet, initial production 100 bbls. in two hours through open tubing, total depth 3,722 feet. Sun Oil Co.'s No. 7 Rollins, top sand 3,575 feet, initial production 65 bbls. per hour through open tubing, total depth 3,614 feet. Texas Co.'s No. 8 R. B. Wall, top sand 3,652 feet, initial production 80 bbls. per hour through open tubing, total depth 3,671 feet.

Tide Water Oil Co.'s No. 9 M. B. Hughey, top sand 3,466 feet, initial production 10 bbls. in 10 minutes through open tubing, total depth 3,482 feet; No. 10 C. J. Strong, top sand 3,644 feet, initial production 8 bbls. in 10 minutes through open tubing, total depth 3,655 feet. Wheelock and Collins' No. 8 Clayton, top sand 3,534 feet, initial production 75 bbls. per hour through open tubing, total depth 3,560 feet.

North Rusk County

Cordova Union Oil & Gas Co.'s No. 1-D C. O. Christian, top sand 3,654 feet, initial production 20 bbls. allowable, total depth 3,740 feet. East Texas Oil & Refining Co.'s No. 2 J. Robinson, top sand 3,589 feet, initial production 33 bbls. in 30 minutes through open tubing, total depth 3,640 feet. Gillum and others' No. 4 Brightwell, top sand 3,612 feet, initial production 85 bbls. per hour through open tubing, total depth 3,622 feet. Gulf Production Co.'s No. 4-A H. Sexton and others, top sand 3,641 feet, initial production 30 bbls. per hour through open tubing, total depth 3,685 feet. Humble Oil & Refining Co.'s No. 62 L. D. Crim, top sand 3,582 feet, initial production 90 bbls. per hour through open tubing, total depth 3,610 feet; No. 32-A S. S. Laird, top sand 3,597 feet, initial production 40 bbls. per hour through three-quarters inch tubing.

Olson Brothers and Johnson's No. 8 J. S. Powers, top sand 3,754 feet, initial production 30 bbls. in 15 minutes through open tubing, total depth 3,756 feet. Sabine Syndicate's No. 4 George Thompson, top sand 3,635 feet, initial production 65 bbls. per hour through open tubing, total depth 3,656 feet. Tide Water Oil Co.'s No. 9 J. S. Bean, top sand 3,572 feet, initial production 10 bbls. in 10 minutes through open tubing, total depth 3,610 feet; No. 5 Jernigan, top sand 3,633 feet, initial production 8 bbls. in 10 minutes through open tubing, total depth 3,647 feet. Sam K. Vierson's No. 3 Jernigan, top sand 3,635 feet, initial production 111 bbls. per hour through open tubing, total depth 3,642 feet. Weaver-Crim Corp.'s No. 1-C F. Bean, top sand 3,610 feet, initial production 110 bbls. per hour through open tubing, total depth 3,642 feet.

South Rusk County

Brawn, Receiver's No. 1 Lide, abandoned, top of Pecan Gap 2,746 feet, top of Austin chalk 3,000 feet, total depth 3,756 feet. Combined Oil Interests' No. 16 G. W. Eaton, top sand 3,758 feet, initial production 21 bbls. in 15 minutes through open tubing, total depth 3,773 feet. East Texas Oil & Refining Co.'s No. 3 Howell Barksdale, top sand 3,666 feet, initial production 22 bbls. in 15 minutes through open tubing, total depth 3,705 feet; No. 5 O. H. Grissom, top sand 3,703 feet, initial production 25 bbls. in 15 minutes through open tubing, total depth 3,707 feet. Falcon Oil Co.'s No. 11 T. O. Mason, top sand 3,620 feet, initial production 60 bbls. per hour through open tubing, total depth 3,665 feet. Humble Oil & Refining Co.'s No. 27-A M. and R. Kangerga, top sand 3,673 feet, initial production 53 bbls. per hour through open tubing, total depth 3,714 feet; No. 10 H. A. Piercey, top sand 3,745 feet, initial production 75 bbls. per hour through open tubing, total depth 3,780 feet. H. L. Hunt Production Co.'s No. 9 W. P. Moore, top sand 3,623 feet, initial production 85 bbls. per hour through open tubing, total depth 3,645 feet. Lion Oil & Refining Co.'s No. 11-B H. Brooks, top sand 3,660 feet, initial production 60 bbls. per hour through open tubing, total depth 3,750 feet.

Mid-Kansas Oil & Gas Co.'s No. 16 E. E. Moores, top sand 3,636 feet, initial production 60 bbls. per hour through open tubing, total depth 3,724 feet; No. 15 S. H. Moores, top sand 3,641 feet, initial production 108 bbls. per hour through open tubing, total depth 3,709 feet. Texas Co.'s No. 11 Bank of Overton, top sand 3,737 feet, initial production 87 bbls. per hour through open tubing, total depth 3,776 feet. Tide Water Oil Co.'s No. 13 Pinkston, top sand 3,780 feet, initial production 16 bbls. in 15 minutes through open tubing, total depth 3,815 feet. Venable and McClanahan's No. 14 J. A. Birdwell, top sand 3,601 feet, initial production 75 bbls. per hour through open tubing, total depth 3,635 feet.

Smith County

Bracken & Curtis' No. 1 T. O. Wright, top sand 3,702 feet, initial production 75 bbls. per hour through open tubing, total depth 3,710 feet. Jackson-Wise and Snowden's No. 3 S. S. Cook, top sand 3,762 feet, initial production 60 bbls. per hour through open tubing, total depth 3,766 feet. Magnolia Petroleum Co.'s No. 15 Irion Wright, top sand 3,667 feet, initial production 32 bbls. in 15 minutes through open tubing, total depth 3,674 feet. Sinclair Prairie Oil Co.'s No. 21-C A. J. Jarvis, top sand 3,650 feet, initial production 35 bbls. in 15 minutes through open tubing, total depth 3,654 feet; No. 5 Wiley, top sand 3,775 feet, initial production 28 bbls. in 15 minutes through open tubing, total depth 3,779 feet; No. 13 D. Wright, top sand 3,727 feet, initial production 40 bbls. in 15 minutes through open tubing, total depth 3,731 feet.

Upshur County

Mudge Oil Co.'s No. 10-A Free, top sand 3,670 feet, initial production 75 bbls. per hour through open tubing, total depth 3,700 feet. Stroube & Stroube's No. 4 R. J. Mackey, top sand 3,574 feet, initial production 90 bbls. per hour through open tubing, total depth 3,601 feet. J. E. Watts' No. 1 Eva O'Byrne, top sand 3,770 feet, initial production 60 bbls. per hour through open tubing, total depth 3,782 feet.

East Central Texas Wildcats

(Continued from Preceding Page)

LIMESTONE COUNTY

C. C. Curtis et al's No. 1 Emma Daniels, 150 ft. from W line and 150 ft. from S line of 42.5-ac. tract in Pedro Varela Sur. ..... T.D. 1,850 ft.; shale.

F. A. Scweiser et al's No. 1 fee, 1,000 ft. from S line and 600 ft. from W line of 115-ac. tract, north part of county, A. Vincent Sur. ..... Drlg. sandy shale 650 ft.

RUSK COUNTY

East Texas Refining Co.'s No. 10 D. Wills, 40 ft. W and 306 ft. S of SE cor. of Stanolind Beall lease, W. P. Chisum Sur. ..... Lost hole; Skidded 50 ft. W.

East Texas Refining Co.'s No. 4 Giles, 3,450 ft. from N line and 1,580 ft. from E line of survey, M. J. Pru Sur. ..... T.D. 3,700 ft.; 5 3-16-in. at 3,640 ft.; waiting on cmt.

East Texas Refining Co.'s No. 6 C. H. Grissom, 5,810 ft. from S line and 3,300 ft. from W line of survey, F. Cordova Sur. ..... Location.

Farrell Drilling Co.'s No. 2 W. M. Hammett, 330 ft. out of most northerly NW cor. of survey, Walker Pettit Sur. ..... Drlg. 2,125 ft.; shale.

Jordan & Ramsey's No. 1 L. W. Prior, 330 ft. from N line and 667 ft. from E line of 53-ac. lease, Walker Pettit Sur. ..... T.D. 3,646 ft.; waiting on cmt.

Walker Murray et al's No. 1 W. H. Arnold, 330 ft. from S and W lines of 50-ac. tract, Levi N. Sparks Sur. ..... T.D. 3,722 ft.; sand and shale; preparing to rerun csg.

O'Hearn Oil Co.'s No. 4 M. M. McMillan, 1,320 ft. from N line and 1,320 ft. from W line of survey, T. J. Martin Sur. ..... 10-in. at 112 ft.; waiting on cmt.

P. & A. Oil Co.'s No. 2 Brightwell, 700 ft. from N line and 1,320 ft. from E line of survey, R. W. Smith Sur. ..... 10-in. at 102 ft.; waiting on cmt.

Patterson Drlg. Co.'s No. 2 Brock Estate, 3,320 ft. from N line and 100 ft. from E line of survey, R. W. Smith Sur. ..... Derrick.

Tatums et al's No. 1 Brightwell, 150 ft. from N line and 1,350 ft. from E line of survey, R. W. Smith Sur. ..... T.D. 3,631 ft.; 7-in. csg. at 3,610 ft.; waiting on cmt.

Texas Co.'s No. 5 J. W. Turner, 955 ft. from S line and 330 ft. from W line of lease and survey, J. M. Scott Sur. ..... Rig up.

Texas Co.'s No. 6 J. W. Turner, 955 ft. from S line, 1,270 ft. from W line of survey, J. M. Scott Sur. ..... T.D. 2,973 ft.; chalk.

SMITH COUNTY

Arcadia Refining Co.'s No. 1 T. O. Wright, 700 ft. from N line and 1,320 ft. from E line of survey, Juan Vargas Sur. ..... T.D. 3,678 ft.; 5-in. csg. at 3,651 ft.; waiting on cmt.

Long Drilling Co.'s No. 3 G. A. Turner, D. W. Campbell Sur. ..... Derrick.

Alex McCutcheon's No. 3 A. S. Jarvis, 3,300 ft. from S line and 5,820 ft. from E line of survey, Juan Vargas Sur. ..... T.D. 3,731 ft.; 98 per cent salt water, 2 per cent oil.

Alex McCutcheon's No. 4 Stone, 890 ft. from N line and 960 ft. from W line of survey, D. Shaw Sur. ..... Derrick.

UPSHUR COUNTY

Cranfill & Reynolds' No. 3 L. Graves, 330 ft. from N line and 990 ft. from E line of survey, M. Irwin Sur. ..... Derrick.

M. T. Flannagan's No. 2 H. F. Whitehurst, 1,050 ft. from N line and 330 ft. from E line of lease, McKinley and Williams Sur. ..... T.D. 3,672 ft.; running tubing.

W. V. Greer's No. 1 A. B. Mackey, 2,409 ft. from N line and 4,080 ft. from E line of survey, H. Pineda Sur. ..... T.D. 3,732 ft.

Magnolia Petroleum Co.'s No. 1 C. Brooks, 345 ft. from S line and 330 ft. from E line of 50-ac. lease, J. F. Davidson Sur. ..... T.D. 2,611 ft.; testing.

Magnolia Petroleum Co.'s No. 2 C. Brooks, 330 ft. from S and W lines of 50-ac. tract, J. F. Davis Sur. ..... Derrick.

B. F. Traywick et al's No. 1 M. Vaughn, 330 ft. from S line and 330 ft. from W line of 108-ac. tract, 2 miles NW of Big Sandy, P. B. Standifer Sur. ..... Digging pits.

VAN ZANDT COUNTY

J. O. Griffin's No. 1 Bruce & Gibbard, 1,000 ft. from S line and 330 ft. from E line of 134-ac. tract, G. Martinez Sur. ..... Derrick.

L. C. Martin et al's No. 1 E. T. Rhodes, 150 ft. from E line and 150 ft. from S line of 34.2-ac. tract, William Page Sur. ..... Shale 1,605 ft.

Pure Oil Co.'s No. 6 R. V. White, 250 ft. N of S line and 2,000 ft. W of E line of R. V. White 19.3-ac. tract, Mund Gross Sur. ..... Drlg. 1,756 ft.

Ray Drilling Co.'s No. 1 J. W. Mallory, 1,150 ft. from S line and 150 ft. from W line of 217-ac. tract, John Walling Sur. ..... Derrick.

Van Oil Association's No. 1 Tankersley, 200 ft. from E and 1,000 ft. from S of farm, L. Landers Sur. ..... Drlg. 2,802 ft.

WOOD COUNTY

D. T. Cauble and Thompson's No. 1 N. G. Bobbett, 650 ft. from S line and 220 ft. from W line of tract, 2½ miles NW of Mineola, Daniel Fuller Sur. ..... Shale 3,325 ft.

Wildcat Operations in West Texas

(Continued from Page 40)

Perry Fox's No. 1 Reach, 170 ft. E and 45o ft. S of the most southerly NW cor. of Sec. 1,026, H.E.&W.T. Sur. ..... Location.

P. A. Johnson's No. 1 Townsite, Blk. 25, C. Schlote Sur., 150 ft. from S and W of Blk. ..... Drlg. 385 ft.

JONES COUNTY

Dyer's No. 1 Odom, 200 ft. from S and 170 ft. from W of N 320 acres, G. Zumwalt Sur. ..... T.D. 2,020 ft.

LOVING COUNTY

R. L. Allen's No. 1 fee, 4,290 ft. from NE line, 330 ft. from SE line, Sec. 32, H.&T.C. Sur. ..... Location.

R. L. Allen's No. 2 fee, 4,290 ft. from NE line, 990 ft. from SE line, Sec. 32, Blk. 33, H.&T.C. Sur. ..... Location.

R. L. Allen's No. 3 fee, 4,290 ft. from NE line, 990 ft. from NW line, Sec. 32, Blk. 33, H.&T.C. Sur. ..... Location.

R. L. Allen's No. 4 fee, 4,290 ft. from NE line, 330 ft. from NW line, Sec. 32, Blk. 33, H.&T.C. Sur. ..... Location.

Eppenauer Drlg. Co.'s No. 1-C Allen, 330 ft. from NW line, 2,310 ft. from SW line, Sec. 90, Blk. 1, W.& NW Sur. ..... Location.

Eppenauer Drlg. Co.'s No. 1-A Victor, 330 ft. from SW and 335 ft. from SE of NW of N half Sec. 4, Blk. 2, W.&N.W. Sur. ..... Rigging up standard tools.

MITCHELL COUNTY

Neeley-Prater's No. 1 Morrison, 330 ft. from N line and 330 ft. from E line of Sec. 34, Blk. 29, T.&P.R.R. Sur. ..... Spudded and S.D.

PECOS COUNTY

M. D. Bryant's No. 1 Robertson, 375 ft. S and 150 ft. E from NW cor. of Robertson Sur. (this well is east offset to Mid-Kansas Oil & Gas Co.'s No. 23 Smith-Taylor) ..... Location.

Culberson Bros.'s No. 15-B Monroe, 725 ft. from N line and 1,380 ft. from E line of Sec. 39, Blk. 194, G.C.&S.F.R.R. Sur. ..... Location.
Humble Oil & Refining Co.'s No. 1 White, Baker, 1,320 ft. from N and E lines of Sec. 44, Blk. 3, T.C. Sur.... S.D. 4,616 ft.
Mid-Kansas O. & G. Co.'s No. 18 Smith-Taylor, 1,296 ft. from S line, 1,320 ft. from W line, Sec. 33, G. G.&S.F. Sur., Blk. 194 ..... Location.
Mid-Kansas Oil & Gas Co.'s No. 20 Smith-Taylor, 700 ft. from S line and 330 ft. from W line of NW cor. S half of Fred Turner, Jr., Sur., but located in Sec. 33, Blk. 194, G.C.&S.F. Sur. ..... Running csg. 1,384 ft.
Mid-Kansas Oil & Gas Co.'s No. 21 Smith-Taylor, 1,700 ft. from S line and 275 ft. W of northerly NW cor. of Fred Turner, Jr., Sur., but located in Sec. 33, Blk. 194, G.C.&S.F. Sur. ..... Underreaming at 700 ft.
Mid-Kansas Oil & Gas Co.'s No. 22 Smith-Taylor, 250 f.t from S line and 324 ft. from W line of NW cor. of Fred Turner, Jr., Sur. No. 2, but located in Sec. 33, Blk. 194, G.C.&S.F. Sur. ..... Bldg. road.
Mid-Kansas Oil & Gas Co.'s No. 23 Smith-Taylor, 333 ft. S of N line of Sec. 33 and 160 ft. from W line of Robertson Sur., Sec. 33, Blk. 194, G.C.&S.F.R.R. Sur... Location.
Mid-Kansas Oil & Gas Co.'s No. 33-A I. G. Yates, 205 ft. from N line and 250 ft. from W line of NW cor. of Fred Turner, Jr., Sur. No. 3, but located in I. G. Yates Sur., A-8195 ..... Drlg. 220 ft.
Mid-Kansas Oil & Gas Co.'s No. 34-A I. G. Yates, 150 ft. from N line and 250 ft. from E line of NW cor. of Fred Turner, Jr., Sur. No. 4, but located in I. G. Yates Sur., A-8195. ..... Drlg. 970 ft.
Mid-Kansas Oil & Gas Co.'s No. 35-A, 250 ft. from N line and 324 ft. from E line of NW cor. of Fred Turner, Jr., Sur. No. 2, but located in I. G. Yates Sur., A-8195. ..... Bldg. road.
Sproles & O'Neal's (rec.) No. 2-A Fred Turner, Jr., 196 ft. from N line, 300 ft. from W line of Fred Turner, Jr., Sur. No. 1 ..... Location.
Sproles & O'Neal's (rec.) No. 4-A Fred Turner, Jr., 1,640 ft. from N line, 250 ft. from W line of Fred Turner, Jr., Sur. No. 1 ..... Drlg. 635 ft.
Sproles & O'Neal's (rec.) No. 5-A Fred Turner, Jr., 250 ft. from N, 250 ft. from W of C SE cor. of Fred Turner, Jr., Sur. No. 1 ..... Location.
Sproles & O'Neal's No. 6-A Fred Turner, Jr., 1,940 ft. from S line, 300 ft. from W line of Fred Turner Sur. No. 1 ..... Drlg. 1,370 ft.
Sproles & O'Neal's No. 7-A Fred Turner, 250 ft. from S line, 250 ft. from W line of Fred Turner, Jr., Sur. No. 1 ..... Location.
Sproles & O'Neal's No. 8-A Fred Turner, Jr., 540 ft. from S line, 550 ft. from E line of Fred Turner Jr., Sur. ..... Location.
Sproles & O'Neal's No. 1-B Fred Turner, Jr., 250 ft. from N line, 308 ft. from E line of Fred Turner, Jr., Sur. ..... Drlg. 750 ft.
Sproles & O'Neal's No. 2-B Fred Turner, Jr., 250 ft. from N line, 305 ft. from W line of Fred Turner, Jr., Sur. ..... Cellar.
Sproles & O'Neal's No. 3-B Fred Turner, Jr., 350 ft. from S line, 350 ft. from W line of Fred Turner, Jr., Sur. ..... Location.
Sproles & O'Neal's No. 4-B Fred Turner, Jr., 717 ft. from S line, 250 ft. from E line of Fred Turner, Jr., Sur. No. 2 ..... Location.
Sproles & O'Neal's No. 1-C Fred Turner, 250 ft. from N line, 250 ft. from W line of Fred Turner, Jr., Sur. ..... Location.
Sproles & O'Neal's No. 2-C Fred Turner, Jr., 205 ft. from N line, 205 ft. from E line of Fred Turner, Jr., Sur. No. 3 ..... Location.
Sproles & O'Neal's No. 1-D Fred Turner, Jr., 150 ft. from N line, 250 ft. from W line of Fred Turner Sur. No. 41 ..... S.D. 630 ft.

REAGAN COUNTY

Big Lake Oil Co.'s No. 12-C University, 925 ft. from N, 740 ft. from E line of Sec. 12, Blk. 2, University land ..... Drlg. 6,650 ft.
Big Lake Oil Co.'s No. 14-C University, 725 ft. from S line and 2,750 ft. from E line of Sec. 25, Blk. 9, University Land Sur. ..... Location.
Big Lake Oil Co.'s No. 15-C University, 660 ft. from E line and 660 ft. from S line of Sec. 25, Blk. 9, University Land Sur. ..... Location.
Continental Oil Co.'s No. 9-B University, 1,900 ft. from S line, 1,895 ft. W of E line of Sec. 39, Blk. 9, University Land Sur. ..... Drlg. 7,171 ft.
G. R. Snider, Trustee's No. 1 D. E. Hughes, 1,243 ft. from E and 990 ft. S of the NW cor. of Sec. 8, G.C.&S.F. Sur. ..... Drlg. 2,581 ft.

REEVES COUNTY

Freels et al's No. 1 J. B. Greeman, 330 ft. from NE and 2,310 ft. from S line of Sec. 21, Blk. 2, H.&G.N. Sur.. S.D. 1,705 ft.

RUNNELS COUNTY

Golden Pet. Co.'s No. 2 McMillan, Subdv. 22, N. Travis Sur. ..... Cellar.
B. C. Mann et al's No. 1 H. E. Wade, 150 ft. from S and 1,650 ft. from W line, Subdv. No. 8, Norvel Travis Sur. No. 533 ..... T.D. 135 ft.

TAYLOR COUNTY

Crissman et al's No. 1 City of Abilene, 1,300 ft. from N and 1,250 ft. from E lines of Sec. 66, Bal Sur. ..... Rigging up cable tools.

TOM GREEN COUNTY

J. R. Midlock's No. 1 Frank Garlitz, 150 ft. from S line and 840 ft. from E line of J. H. Mueller Sur. No. 2,201 ..... Location.

UPTON COUNTY

Gulf Prod. Co.'s No. 103 McElroy, 1,980 ft. from S and 660 ft. from W, Sec. 197, Blk. F, C.C.S.D.&R.G.N.G.... Drlg. 6,700 ft.

WARD COUNTY

Abell Brothers et al's No. 1 S. S. Owen et al, 330 ft. from NW line and 2,310 ft. from SW line of Sec. 16, H.&T.C. Sur., Blk. 5 ..... T.D. 788 ft.
Abell Brothers' No. 1 Archenhold et al, 2,310 ft. from NE line and 330 ft. from SE line of Sec. 33, H.&T.C. Sur., Blk. 5 ..... Drlg. 155 ft.
Atlantic Oil & Prod. Co.'s No. 4 W. D. Johnson, 330 ft. from NE line and 990 ft. from SE line of NE half of Sec. 9, H.&T.C. Sur., Blk. 34 ..... Rotary rig.
Atlantic Oil & Prod. Co.'s No. 9 Johnson, 330 ft. from NE line and 990 ft. from NW line of Sec. 9, Blk. 34, H.&T.C. Sur. ..... Location.
Atlantic Oil & Prod. Co.'s No. 10 Johnson, 990 ft. from NE line and 330 ft. from NW line of Sec. 9, Blk. 34, H.&T.C. Sur. ..... Location.
Atlantic Oil & Prod. Co.'s No. 11 Johnson, 2,310 ft. from NE line and 1,650 ft. from SE line of Sec. 9, Blk. 34, H.&T.C. Sur. ..... Location.
Atlantic Oil & Prod. Co.'s No. 12 Johnson, 990 ft. from SE line and 990 ft. from NE line of Sec. 9, Blk. 34, H.&T.C. Sur. ..... Location.
Atlantic Oil & Prod. Co.'s No. 13 Johnson, 330 ft. from NE line and 330 ft. from SE line of Sec. 9, Blk. 34, H.&T.C. Sur. ..... Location.
Atlantic Oil & Prod. Co.'s No. 14 Johnson, 330 ft. from NE line and 2,310 ft. from NW line of Sec. 9, Blk. 34, H.&T.C. Sur. ..... Location.
Atlantic Oil & Prod. Co.'s No. 15 Johnson, 330 ft. from SE line and 1,650 ft. from NE line of Sec. 9, Blk. 34, H.&T.C. Sur. ..... Location.
George Bentley et al's No. 1 C. Bergman, 330 ft. from NE line and 2,310 ft. from NW lines of Sec. 26, Blk. 5, H.&T.C. Sur. ..... T.D. 2,650 ft., plugged back to 2,470 ft., fishing.
George Bentley et al's No. 1 A. Emory, 1,830 ft. from NE line and 2,310 ft. from NW line of Sec. 24, Blk. 5, H.&T.C. Sur. ..... T.D. 2,301 ft.
Eppenauer Drlg. Co.'s No. 1 University, 330 ft. from N and 440 ft. from E of S half of Blk. 16 ..... Fishing for tools; T.D. 2,650 ft.
Gulf Prod. Co.'s No. 22 Hutchings, 330 ft. from N line and 330 ft. from W line of Sec. 4, Blk. F, G.M.M. B.&A. Sur. ..... Location.
Gulf Prod. Co.'s No. 36 O'Brien, 330 ft. from N line and 330 ft. from E line of Sec. 17, Blk. F, G.M.M.B.&A. Sur. ..... Location.
Jack Leidecker et al's No. 1 A. Archenhold et al, 2,310 ft. from NE and 2,310 ft. from NW line of Sec. 33, H.&T.C.R.R. Sur., Blk. 5 ..... Drlg. 2,390 ft.
Sinclair Prairie Oil Co.'s No. 2 H. Archenhold, 330 ft. from NE lines and 330 ft. from SE lines of SW of Sec. 33, H.&T.C. Sur., Blk. 5 ..... Moving in material.
S. A. Thompson et al's No. 4 W. D. Johnson, 330 ft. from NE line and 2,310 ft. from NW line of the SW half of Sec. 9, H.&T.C.R.R., Blk. 34 ..... Drlg. 1,650 ft.
Wahlenmaier Pet. Corp.'s No. 1 R. M. Blodget, 990 ft. from SW line, 330 ft. from SE line of Sec. 26, H.&T.C. Sur., Blk. 5 ..... Drlg. 1,360 ft.

WINKLER COUNTY

Harry Adams et al's No. 3 Scarborough, 990 ft. from N line and 990 ft. from E line of Sec. 1, Blk. 77, P.S.L. Sur. ..... Drlg. 3,004 ft.
Colonial Oil Co.'s No. 2 State Scarborough, 990 ft. from W and 1021½ ft. N of the NE cor. of Sec. 1, School Blk. 77, located in Sec. 1, Blk. W, P. ..... Rig up and S.D.
Sid Richardson's No. 3 John Scally, 2,310 ft. from the N line and 330 ft. from the W line of Sec. 94, G.&M.B.B.&A. Sur. ..... Flowed 60 bbls. in 24 hrs.; T.D. 3,208 ft.
L. H. Wentz' No. 1 Daugherty, 330 ft. from N and 330 ft. W of Sec. 3, Blk. C-23, P.S.L. Sur. ..... Location.

Wildcat Operations in Texas Panhandle

Week Ending September 18

CARSON COUNTY

Company, well, farm name, section and block—	Remarks:
Reiger et al's No. 1 Foster, 330 ft. from N and E lines of SW Sec. 93, Blk. 7, I.&G.N.R.R. Sur.	Spudded and S.D.

GRAY COUNTY

Anderson & Bean's No. 3 J. C. Vollmert, 330 ft. from S line, 330 ft. from E line, SW Sec. 140, I.&G.N. Sur., Blk. 3	Cellar.
British American Oil Prod. Co.'s No. 4 Phillips, 1,254 ft. from N, 330 ft. from W lines of W½ E½, Sec. 127, Blk. 3, I.&G.N.R.R. Sur.	Drlg. 3,090 ft.
Charles Black's No. 1 fee, 330 ft. from W, 661 ft. from S line of SW Sec. 45, Blk. 25, H.&G.N. Sur.	O.W.D.D.; T.D. 2,965 ft.
Bell O. & G. Co.'s No. 1 Webb, 330 ft. from N and E lines of Sec. 61, Blk. 25, H.&G.N. Sur.	T.D. 2,570 ft.; shot 2,520-70 ft.; swbd. 210 bbls.
Cambrian Oil Co.'s No. 2 G. Cole, 330 ft. from S line, 330 ft. from W line, SW Sec. 105, I.&G.N. Sur., Blk. 3	Cellar.
Chism et al's No. 1 J. M. Carpenter, 330 ft. from N line, 330 ft. from E line of SE Sec. 37, H.&G.N. Sur., Blk. 25	Drlg. 1,805 ft.
Continental Oil Co.'s No. 4 Finley, Sec. 32, Blk. 2-B, H.&G.N. Sur.	O.W.D.D.; T.D. 2,957 ft.
Denworth Oil Co.'s No. 2-B Webb, 330 ft. from N and W lines, SE NW Sec. 61, Blk. 25, H.&G.N. Sur.	Drlg. 1,150 ft.
Gulf Prod. Co.'s No. 5 Ellis Cockrell, 330 ft. from N and E lines of S½ Sec. 2, Blk. M-21, T.C.R.R. Sur.	Location.
Hendron et al's No. 1 Husselby, 330 ft. S and E, SW SW Sec. 11, Blk. A-8, H.&G.N. Sur.	Rig.
Mazda-Shell's No. 4 Coombs-Worley, 990 ft. from N line, 330 ft. from E line, Sec. 35, Blk. 3, I.&G.N. Sur.	Rig.
Phillips Pet. Co.'s No. 7 Jackson, 990 ft. from E, 330 ft. from S lines of S½ SE Sec. 88, Blk. 2-B, I.&G.N. Sur.	Fishing 2,287 ft.
Phillips Pet. Co.'s No. 1 Benton, 360 ft. N, 345 ft. W from E lines of W½ E½ Sec. 63, Blk. 3, I.&G.N. R.R. Sur.	Drlg. 2,045 ft.
Baker Saulsberry's No. 1 John Cubine, 990 ft. from N and E lines, of SE Sec. 36, Blk. 25, H.&G.N.R.R. Sur.	Rig on ground.
Sinclair Prairie Oil Co.'s No. 3 P. A. Coomley, 1,800 ft. from S, 2,613 ft. from W lines of S 246 acres of Sec. 57, Blk. 3, I.&G.N. Sur.	Fishing 2,917 ft.
Skelly Oil Co.'s No. 1 L. H. Webb, 990 ft. from E line, 330 ft. from N line of S½ of Sec. 61, H.&G.N. Sur., Blk. 25	U.R. 1,690 ft.
Skelly Oil Co.'s No. 5 Vicars, 440 ft. from N, 330 ft. from W line of E½ NW Sec. 127, Blk. 3, I.&G.N. R.R. Sur.	Drlg. 510 ft.
Southern Pet. Expltn. Co.'s No. 5 McConnell, 330 ft. from N, 990 ft. from W lines of NW Sec. 174, Blk. 3, I.&G.N.R.R. Sur.	Rig up.
Sun Oil Co.'s No. 2-B Combs-Worley, 330 ft. from S line, 990 ft. from E line of SW of Sec. 34, I.&G. N. Sur., Blk. 3	Cellar.
Texas Co.'s No. 6 Combs-Worley (O.W.D.D.), 330 ft. from N and W lines of S½ SE Sec. 36, Blk. 3, I. &G.N.R.R. Sur.	C.O. at 3,022 ft.
Vulcan Oil Co.'s No. 1 M. H. Kinard, 330 ft. from N line, 330 ft. from W line, SW Sec. 41, H.&G.N. Sur., Blk. 25	Cellar.
Wilcox O. & G. Co.'s No. 23 Combs-Worley, 990 ft. from E line, 330 ft. from N line of Sec. 35, I.&G. N. Sur., Blk. 23	Rig up standard tools.
F. H. Yealy's No. 2 Crank, 960 ft. from N and E lines of N 160 acres of W 400 acres of Sec. 163, Blk. 3, I.&G.N.R.R. Sur.	Rig.

HUTCHINSON COUNTY

Huber Pet. Corp.'s No. 1-A Huber Dunaway, 330 ft. from S, 990 ft. from E lines of S 200 acres of Sec. 7, Blk. Y-a, T.C.R.R. Sur.	Cellar.
Phillips Pet. Co.'s No. 1 Ponter, 33 ft. from S and W lines of S 80 acres of E½ Sec. 6, Blk. M-21, T.C. R.R. Sur.	Spudding.
Dave Rubin-Henderson's No. 1 fee, 86 ft. from S, 299 ft. from E of SW cor. Sec. 83, Blk. 46, H.&T.C. R.R. Sur.	S.D. 900 ft.
H. Stekol's No. 4 G. A. Whittenburg, 450 ft. from N line, 990 ft. from W line, Sec. 38, Blk. M-23, T.C. R.R. Sur.	To test; T.D. 3,032 ft.

RANDALL COUNTY

Woolsey & Devore's No. 1 Below, 330 ft. N, 1,320 ft. E of NE, Sec. 35, Blk. 2, A.B.&M. Sur.	Drlg. 4,110 ft.

WHEELER COUNTY

Martin & Dubose's No. 1 Grogan, C NE Sec. 57, Blk. 32, H.&G.N. Sur.	Fishing 1,545 ft.
Mid-Kansas O. & G. Co.'s No. 1 Husselby, 330 ft. from S and E lines of SW Sec. 70, Blk. 34, H.&G.N. Sur.	S.D. 2,435 ft.
Piney O. & G. Co.'s No. 1 J. P. Koons, 330 ft. from E line, 330 ft. from S line of E½ NE Sec. 43, H.& G.N. Sur., Blk. 34	Drlg. 1,850 ft.
Skelly Oil Co.'s No. 1 M. Husselby, 330 ft. from S line, 330 ft. from W line of E½ of Sec. 70, H.&G.N. Sur., Blk. 34	Set csg. at 2,365 ft.

Another Conroe-Jackson Trend Play Is Failure; Twelve Locations in the Shreveport Division

By D. H. BANCROFT
Staff Correspondent, Louisiana-Arkansas

SHREVEPORT, La., Sept. 18.—The Conroe-Jackson trend play across central Louisiana developed another failure this week when Vernon Oil Co.'s No. 1 Delta Land & Timber Co., SW SW Section 2-1n-11, Vernon Parish, tested salt water at 2,703 feet with 6-inch cemented at 2,477 feet. Across the State in East Carroll Parish, Marr & Collins' No. 1 Desha Lumber Co., Section 41-21-12, tested 5 thribbles of mud showing some salt water and no gas at 2,890 feet. Top of the gas rock was 2,885 feet. Location is approximately 10 miles northeast of United Gas Co.'s group of producers drilled between four and five years ago. However, they will core ahead on this well and test below the red beds which should be found at around 3,150 feet.

E. T. Oakes' No. 1 Bryant, NE NW Section 30-12-8, DeSoto Parish, tested dry at 4,614 feet and was coring at 4,630 feet. Joe Modisette's No. 3 Frost-Johnson, NE SW Section 16-9-13, Converse district of Sabine Parish, was drilling hard lime at 4,190 feet. In the Sugar Creek gas district of Claiborne Parish, United Gas Co. began No. 2 Tony Durette, SW SE Section 5-19-5, where production is found at around 4,300 feet. In the Rodessa deep gas district of Caddo Parish, Arkansas-Louisiana Pipe Line Co. was drilling hard lime at 6,150 feet on No. 1 Williams & Windham, NE NW Section 4-22-16, approximately 600 feet deeper than the producers in that territory. Harry Morgan's deep test to the southeast of production in the old Bellevue shallow fieid of Bossier Parish, No. 2 Smith, NW SW Section 22-19-11, was drilling hard shale at 5,713 feet.

New Locations

There were 12 new locations in the territory, 10 in Louisiana and 2 in Mississippi. Of the Louisiana locations, one was in Converse, two in Zwolle, five in Monroe and one each in wildcat territory in DeSoto and Franklin Parishes. George LeGrand's No. 1 Payne, NW NW Section 12-11-16, is rigging up an old hole drilled years ago which he is cleaning out to deepen, a failure at 2,000 feet. In Franklin Parish, L. G. Welsh has location for No. 1 Paepke Corp., NE NE Section 23-12-9. In Ouachita Parish division of the Monroe gas field, George Pipes' No. 3 Nelson, Section 4-18-4e, began drilling September 8, set 108 feet of surface casing and is drilling. No. 4 on the same lease in Section 5-18-4, is a location. No. 5 Nelson, Section 32-19-4, and No. 6 Nelson in Section 33-19-4, are locations. Century Carbon Co.'s No. 4 Slaughter, NE NE Section 24-19-4, Ouachita Parish, is a derrick. In Converse territory of Sabine Parish, Helena Oil & Gas Co.'s No. 1 Graham, SW NE Section 20-9-13, is a derrick. Pugh-Hickman Drilling Co.'s No. 9 Stille, SE NW Section 16-7-11, is rigging up, and No. 10, same lease and section, is a location. Jackson gas district of Mississippi accounted for two new operations: Love Petroleum Co.'s No. 2 fee, SW SW Section 31-6-2e, Rankin County, began drilling September 9 and is drilling at 900 feet; United Gas Co.'s No. 1 MaLavin 1-C, C SE Section 19-6-2e, began drilling September 11, and set 16-inch surface pipe at 145 feet, apparently for a deep test.

Completions

There were 14 completions, 3 gas wells and 11 failures; 10 in Louisiana, 3 in East Texas border counties and 1 in Mississippi. Louisiana, Calatex Oil & Gas Co.'s No. 1 J. M. Agurs, NE NE Section 9-16-16, Blanchard gas district of Caddo Parish, made 8,000,000 feet of gas at 2,997 feet. In Ouachita Parish, Milhaven Gas Corp.'s No. 1 West Virginia Land & Timber Co., Section 10-17-5, is an abandoned location. George Pipes' No. 2 Nelson, Lot 8, Section 4-18-4, Ouachita Parish, gauged 2,500,000 feet of gas at 810 pounds rock pressure from 2,187 feet. In Converse district of Sabine Parish, Feazel & Davenport's No. 1 Aaron, NW NW Section 32-9-13, was dry and abandoned at 2,064 feet. R. T. Henderson's No. 1 Sistrunk, SE NW Section 9-9-13, was dry and abandoned at 3,384 feet after a show of considerable gas with salt water. George LeGrand's No. 1 McGough, a wildcat in the SW NW Section 2-8-10, was abandoned at 2,640 feet. Pugh-Hickman Drilling Co.'s No. 1 Stille, SE SE Section 16-7-11, Zwolle district of Sabine Parish, was abandoned at 2,697 feet. H. Reeves' No. 1 Ponder, SE NW Section 15-7-11, Zwolle, tested dry at 2,675 feet and was abandoned. Robinson Drilling Co.'s No. 1 Bowman-Hicks Lumber Co., NW NW Section 23-9-13, Converse, was dry and abandoned at 2,029 feet. J. M. Moody's No. 1 Frost Lumber Industries, SE SE Section 7-22-2e, Union Parish division of the Monroe gas field, was dry and abandoned at 2,555 feet.

The three failures in East Texas were: Great Eastern Petroleum Co.'s No. 1 Rudd, William Steele Survey of Harrison County, dry at 2,848 feet; Dragon Oil Co.'s No. 2 R. W. Player, N. G. Noll Survey, Marion County, dry and abandoned at 2,421 feet after a show of oil with salt water, and Carl Reamer and others abandoned location for No. 1 H. B. Ivy, B. Martin Survey, Panola County.

The Mississippi completion was James A. Baker's No. 1 Hawkins, SW SE Section 31-6-2e, Rankin County, abandoned in the Wilcox at 2,823 feet.

NORTH LOUISIANA

In Bossier Parish, D. A. Sherrell on his No. 1 fee, NW NW Section 18-19-11, failed to make drill stem test as seat would not hold. While reaming hole to set 6-inch afterward, it showed considerable oil from a total depth of 2,207 feet. Location is west and a little south of the old Bellevue Field which produced from around 400 feet. G. C. Gibbons' No. 1 Burglass Oil & Gas Co., NE NE Section 15-21-16, Lewis district of the old Caddo Field, did not make drill stem test as planned at 1,808 feet and has cemented 6-inch at 1,881 feet, total depth 1,910 feet, and will drill plug within a few days. John F. Kerper's No. 1 Barron, NE SE Section 27-16-14, in the southwestern part of Caddo Parish, has resumed drilling on his 3,500-foot test after being shut down on account of high water and has reached 3,160 feet. In Catahoula Parish, George Greer and others are having trouble on their third hole, No. 3 Louisiana Central Lumber Co., NE NE Section 2-9-6e, approximately 6 miles east of their two previous wells which blew out with gas, water and mud and were lost. From a total depth of 1,105 feet they have plugged back to 910 feet and are arranging to set casing.

ARKANSAS

In Ouachita County, Arkansas, J. B. Reynolds, on his No. 1 Snow Hill Baptist Church, SE SW Section 28-15-15, Smackover district, is reported to have cored 5 feet of oil sand from 1,960-65 feet and has set 6-inch at 1,959 feet. In Union County, E. R. Henderson's No. 1 J. H. Ogden, SW SE Section 32-18-14, Urbana district wildcat, cored cap rock at 2,165-68 feet and from 2,168-79 feet cored sand carrying oil and has set 6-inch at 2,165 feet for a test. Miller County remained inactive.

EAST TEXAS BORDER

In Cass County, East Texas, T. H. Pardoe started a well in the T. W. Morris Survey which was shut down for a considerable length of time and has lately been taken over by H. A. Pace. It is now known as Pace and others and is drilling shale at 1,700 feet.

MISSISSIPPI

In Covington County, Mississippi, Eastman-Gardiner interests' No. 1 Bank of Deming, NW NW Section 26-8-15, was drilling chalk at 6,825 feet. Atkins and Hightower's No. 1 Overstreet, SW NE Section 26-6-1e, hit the black shale at 2,402 feet and set 7-inch on top of the chalk at 2,469 feet. In Jones County, Snow-Block Petroleum Co.'s No. 1 Watson estate, NE SW Section 24-7-13, was drilling in the Wilcox at 3,350 feet. In Rankin County, J. A. Alexander, trustee's No. 2 Love Petroleum Co., NW SE Section 36-6-1e, hit the top of the black shale at 2,306 feet, top of the chalk at 2,404 feet and set 7-inch casing. Love Brothers' No. 2 Interior Lumber Co., NW NW Section 28-6-2e, reported a show of oil slightly below 3,650 feet and set 5⅞-inch casing at that depth.

Daily Average Runs

Daily average runs from the field declined 185 bbls. from last week, Louisiana runs totaling 25,845 bbls., declined 120 bbls., and Arkansas totaling 30,975 bbls., were 45 bbls. less. Runs from the several pools were:

LOUISIANA

	Bbls.
Caddo, light	4,615
Caddo, heavy	1,490
Converse	360
Cotton Valley	435
DeSoto-Red River	1,580
Elm Grove	325
Haynesville	3,865
Holly	205
Homer	2,695
Pleasant Hill	245
Sarepta-Carterville	790
Urania	2,575
Zwolle	6,665
Total	25,845

ARKANSAS

Champagnolle	1,290
El Dorado	2,560
Lisbon	400
Miller County	310
Nevada County	630
Smackover, light	3,570
Smackover, heavy	21,170
Stephens	625
Urbana	1,420
Total	30,975
Both States	56,820
Last week	57,005
Decrease	185

Wildcat Operations in Louisiana-Arkansas

(Rotary operations unless otherwise designated)

North Louisiana

BIENVILLE PARISH

Company, well, farm name, section and block— Remarks:

Poole & Johnson's No. 1 H. E. Sudduth, 1,170 ft. E and S, C Sec. 28-14-16 ..... Derrick.

BOSSIER PARISH

J. A. King et al's (was A. W. Phillips, tr.'s) No. 1 Oden, 300 ft. W, 150 ft. N, SE cor. NW NW Sec. 4-18-13 ..... S.D. 1,704 ft.

W. D. Ball's Hicks Grocery Co. (was Dr. C. R. Reed, tr.'s) No. 1 C.J.&B., Sec. 18-16-11 ..... Set 6-in. 1,661 ft.; testing.

B. A. Sherrell, tr.'s No. 1 fee, NE NW NW Sec. 18-19-11 .. Coring 2,207 ft.

CADDO PARISH

J. B. Hutchinson, tr.'s No. 1 Story Phillips, 330 ft. N and E, SW cor. SW NE SE Sec. 28-16-13 ..... Set 8-in. 1,426 ft.

J. T. Humphrey et al's No. 1 Powell, 330 ft. N and E, SW cor. NW SE Section 14-19-15 ..... Drlg. 670 ft.

John F. Kerper's No. 1 Barron, 350 ft. N and W, SE cor. NE SE Sec. 27-16-14 ..... Drlg. 3,162 ft.

A. D. King, tr.'s No. 1 Roach, 641 ft. E, 875 ft. N, SW cor. SW SW Sec. 4-14-16 ..... S.D. 226 ft.

CATAHOULA PARISH

Geo. Greer et al's No. 3 La. Central Lbr. Co., 775 ft. E, 260 ft. S, NW cor. NE NE Sec. 2-9-6 ..... Arranging to set 8-in. 910 ft.

DE SOTO PARISH

Bailey Gantz et al's No. 1 Jenkins, NW cor. SE SW Sec. 35-13-12 ..... Moving in heavy rig; T.D. 3,690 ft.

J. H. McKenzie's (was P. B. Dyer's) No. 2 B. F. Jenkins, 330 ft. N and E, SW cor. NW SW Sec. 35-15-12 .. Cmtd. 6-in. 2,430 ft.

Hirschfield-Bailey Interests' No. 1 Mickle, 660 ft. N and E, SW cor. SE Sec. 7-13-12 ..... S.D. chalk 1,170 ft.

N. B. Porter's No. 1 J. W. Porter Est., 330 ft. N and E, SW cor. SE SE Sec. 23-12-13 ..... Set 4-in. 1,112 ft.; drlg. plug; T. D. 1,204 ft.

EAST CARROLL PARISH

Marr & Collins' No. 1 Desha Lbr. Co., NW Sec. 42-21-12 .. Set 10-in. 300 ft.; drlg. 2,760 ft.

SABINE PARISH

A. F. Allen's No. 1 G. W. Belton, NE cor. NW NW Sec. 33-9-13 ..... S.D. fuel 400 ft.

CONVERSE DISTRICT

A. G. Craig's No. 1 Belton, 330 ft. N and E, SW cor. NW NW Sec. 33-9-13 ..... Derrick.

Mamie S. Hammond's No. 1 Patrick, 330 ft. N, 330 ft. W, SE cor. Sec. 1-9-13 ..... T.A. 3,235 ft.

Helena O. & G. Co.'s No. 1 C. Jackson, 330 ft. S and W, NE cor. SW SW Sec. 10-9-13 ..... Set 6-in. 1,768 ft; T.D. 1,842 ft.

(Continued on Page 58)

Well Extends the Greta Field to the Northwest; Twenty-one New Locations Made in Week

By W. A. SPINNEY
Gulf Coast Bureau, The Oil and Gas Journal

HOUSTON, Tex., Sept. 18.—The Gulf Coast was featured by increased activity during the week especially in the Greta Field in Refugio County, where production was extended. The deepest test ever drilled on the Gulf Coast was abandoned a dry hole. A shallow sand in the Miocene series was showing oil in a wildcat test in Victoria County, and a core was being taken to determine where the sand was encountered. The wildcat in Jefferson County, drilled by the Sun Oil Co. and Shell Petroleum Corp., their No. 1 Paggi, was standing cemented preparatory to testing. This is on a geophysical prospect and on a recent drill stem test showed for a well and possible new field.

Development at Greta, Refugio County, took a sudden increase when a total of 21 new locations were made. There are 21 completed wells in the field with an estimated potential of 35,000 bbls. daily. These wells are being pinched to a small percentage of their potential. At the Railroad Commission hearing on Greta held at Houston, Tex., September 15, the operators unanimously consented to observe an acreage plan of proration if such an order were issued by the commission, although no previous orders based on acreage have been upheld by the courts. If this kind of an order is put into effect here it will be the only field in the State to be prorated on the acreage basis. Just how the acreage proration plan will be put into operation in the Greta Field is not known at this time.

Producing Territory Not Defined

The proven territory in the Greta Field now covers approximately 2,000 acres and it is predicted the field will spread to include at least 6,000 acres of productive territory. The present producing territory has not been defined on the north or west and the most recently completed wells on the west side indicate they are higher on structure than those in any other part of the field.

Production in the field again was extended by the completion of Circle W Oil Co.'s No. 2 O'Brien, in E. H. Winfield Survey. The well is a quarter of a mile to the northwest. It made 404 bbls. of oil through a quarter-inch choke from the Greta sand at 4,355-4,401 feet. Southwest Oil Corp.'s No. 2-B O'Brien, in E. H. Winfield Survey, was completed for 350 bbls. a day through a quarter-inch choke from sand at 4,384-4,401 feet. This well is the most southerly in the field and extended production one location south.

Daily average production in the Greta Field was reduced during the week to comply with the 25 per cent reduction ordered by the Railroad Commission. The field averaged around 6,500 bbls. daily which is a reduction of 2,200 bbls. from the previous week's average of 8,700 bbls. The Railroad Commission is expected to issue a new order governing the production in the Greta Field shortly. The field has been drilled systematically on a basis of one well to 20 acres. The majority of the tracts in the field are in 50-acre pieces and on these one well to 25 acres is drilled with proper adjustments to be made in production allowances for the extra acreage. The present proration is voluntary and operators are producing their wells in the most efficient manner. But the field has reached a point where each new completion brings the total production nearer the 10,000-bbl. mark which is the point where the Railroad Commission regulates production.

Deepest Test Abandoned

The deepest test ever drilled in the Gulf Coast territory is being abandoned as a dry hole. The test is Yount Lee Oil Co.'s No. 1 E. W. Boyt, in the H.&T.C. Survey, Section 17, southern Liberty County, just north of the Chambers County line. It was drilled to a total depth of 9,865 feet, and is being junked after dropping 9,500 feet of drill pipe. There is no record of this test finding any showings of oil or gas while drilling.

Victoria County

Stoneleigh Oil & Gas Co.'s No. 1 J. Zimmer, in southern Victoria County, in the lower Gulf Coast district, on R. Manchola Survey, is the wildcat test showing oil and gas in the Miocene series from a total depth of 2,884 feet. On a drill stem test this well recovered 18 fourbles of sand, oil and water in 25 minutes. Four different drill stem tests were attempted of the oil showing but three were failures. Gulf Production Co. has 25 per cent interest in the well and acreage. The test is 3,000 feet east of same company's No. 1 Terrell, recently completed as a wet gas well at 4,437 feet. The owners were drilling No. 1 Zimmer to the same horizon as No. 1 Terrell and came upon the sand unexpectedly. They are plugging back 200 feet to sidetrack and drill a new hole to core all the formations. These are the only tests that have been drilled on the block, which is several miles southwest of the town of Victoria and some distance north of the McFaddin district.

Gulf Production Co.'s No. 4 Keeran, Martin Deleon Survey, Keeran Field, southeastern Victoria County, was abandoned at 6,380 feet in sand and lime after making an unsatisfactory drill stem test.

Fifty-one New Operations

The Gulf Coast continued active with a total of 51 new operations and 8 proposed new locations. These operations are scattered over a wide area in all sections in the district. Another indication of increased activity is the starting up of tests that have been shut down for some time.

Hull Field

At Hull Field, Liberty County, three new tests were started, one by the Humble Oil & Refining Co., one by Miramar Oil Co. and the other by Houston Production Co. The Humble test is a direct offset to Miramar Oil Co.'s No. 1 Phoenix Development Co. well, which recently extended production on the southeast side of the Hull Field. Miramar Oil Co.'s No. 3 Phoenix Development Co. is a new operation 400 feet east of No. 1. Houston Oil Co.'s test, No. 2 Orgain, 300 feet east of No. 1 Orgain, is making 350 bbls. a day through a quarter-inch choke.

Wharton County

In the Louise area of Wharton County, Pure Oil Co.'s No. 1 Stewart, Section 25, Morris and Cummings Survey, blew out of control for 24 hours during the past week. It was brought under control before any damage was done. The test had reached a total depth of 8,075 feet. Pressure was estimated at 1,000 pounds. The blowout came while the crew was fishing at 6,597 feet for drill pipe.

Progress at the test has been watched as it is in a territory where Pure Oil Co. has a number of wildcats drilling.

Pure Oil Co.'s No. 1 Kountze, about a mile southeast of No. 1 Stewart, was drilling on the last report at 6,896 feet in shale. Pure Oil Co.'s other tests that are drilling in Louise include No. 1 W. Garrett, Section 28, drilling at 4,870 feet, No. 1 Lancaster, Section 23, drilling at 4,500 feet in sand with nothing showing; No. 1 Wallace Houston, spudding; No. 1 Isaac Weaver, drilling at 4,345 feet and No. 1 A. J. Wilder, drilling at 4,145 feet. Smith & McDannald and Pure Oil Co.'s No. 1 B. M. Yeamans, about 2 miles south of the other drilling tests, was drilling at 5,100 feet. This district is one of the most active in development although there is no commercial production.

Manvel Field

In the Manvel Field in Brazoria County, Texas Co. made four locations. Derricks are up at two of them. These locations are all in the H. N. Little Survey. One of these, No. 1 Ellis, a derrick, is a west extension. Manvel is owned 100 per cent by Texas Co. and has been averaging around 2,800 bbls. daily pinched in. This field is in process of being developed and its productivity and its future area are not defined.

Grimes County

Humble Oil & Refining Co. has made location for a wildcat in the Ferguson Crossing district of Grimes County. It is located in the F. G. Seaton Survey. Drilling is slated to start at this location this week.

Polk County

In Polk County the latest wildcat to be announced is D. B. McCall's No. 1 Fortner, 3 miles north of the town of Leggett and 11 miles north of Livingston. This is approximately 20 miles from the nearest other production which is the Livingston Field, south of Livingston.

Developments in the Livingston Field include Gist Oil Co.'s No. 1 Kavanaugh-Collins, which made an unsatisfactory drill stem test during the week. Operators are continuing to drill and take cores at frequent intervals. Total depth was 4,350 feet. Skelly Oil Co.'s No. 1 Sanders, southwest of production, was drilling at 4,060 feet in shale. It was reported to be 85 feet higher on the structure than any drilled to date in the field. It found the top of the Hockley at minus 3,250 feet. The company already has four 500-bbl. tanks erected and the necessary pipe on the location to connect the well to the tanks. A test made of the hole showed that it was off vertical 6 degrees and it may be plugged back in an attempt to drill a straighter hole.

Dick Schwabb's No. 1 Kirby and West, in the Geraldus Thomas Survey, a wildcat test in Polk County, is preparing to spud this week. It is 9 miles southeast of production in the Livingston Field.

San Jacinto County

In San Jacinto County, Turnball & Erwin and others' No. 1 Love, Washington Railroad Survey, is a wildcat drilling at 550 feet. It is on a 128-acre lease owned by E. W. Love. Contract calls for a test to 5,500 feet unless production is found at a lesser depth. Piedmont Oil Co.'s No. 1 Foster Lumber Co., a wildcat in San Jacinto County, got salt water at 4,475 feet and is being abandoned.

Harris County

Another wildcat test in Harris County proved a disappointment, this being Mc-

Gulf Coast Fields and Wildcats

Week Ending September 16

DAMON MOUND—BRAZORIA COUNTY

Company, farm and location—	Remarks:
Intercoastal Oil Co.'s No. 11 Wisdom, 350 ft. E of No. 6, Blk. 51, Lot D, A. Durst Sur.	Drlg. shale 3,160 ft.
Sinclair Prairie Oil Co.'s No. 31-A Bryan, 155 ft. N, 45 deg. E of SW cor. of Blk. 38, Masterson Subd., and 140 ft. S, 45 deg. E, A. Darst Sur.	T.D. 7,586 ft.; fishing D.S. 4,360 ft.

MANVEL—BRAZORIA COUNTY

Texas Co.'s No. 1 Belcher (W.O.), 157 ft. SE of NW line and 323 ft. NE of SW line of Lot 18, Blk. A, Suburban Gardens Subd, H. N. Little Sur.	T.D. 5,537 ft.; P.B. and sidetracked to 5,489 ft.; preparing to set 7-in. screen at 5,489 ft.
Texas Co.'s No. 5-A Belcher, S 40 deg. W 2,430 ft., S 48 deg. E 300 ft. from N cor. of "A" lease, H. N. Little Sur.	Drlg. gumbo 1,981 ft.
Texas Co.'s No. 6 Belcher, H. N. Little Sur., South 42° W 2,400 ft. and S 48° E 400 ft. from N cor. lease	Drlg. shale 5,476 ft.
The Texas Co.'s No. 2 Davis, 300 ft. out of S cor. Lot 42, H. N. Little Sur.	T.D. 5,812 ft.; cmtd. back to 3,790 ft.; standing.

STRATTON RIDGE—BRAZORIA COUNTY

Amerada Pet. Corp.'s No. 3 Seaborn (W.O.), Austin & Williams Sur., 1,250 ft. E of W line, 4,550 ft. S of N line	Dry in sidetracked hole 4,385 ft; T.D. 5,100 ft. in salt.

BARBERS HILL—CHAMBERS COUNTY

Mills Bennett Prod. Co.'s No. 1-C Barber, Henry Griffith League, 100 ft. E, 30 ft. N of SW cor. of tract	Drlg. sand 4,940 ft.
Mills Bennett Prod. Co.'s No. 2-B Gulf fee, Wm. Bloodgood Sur., 1,340 ft. N along N line, 300 ft. E at right angles to W line	Drlg. sand 802 ft.
Mills Bennett Prod. Co.'s No. 6-A Wilburn, H. Griffith Sur. (O.W.D.D.)	Sand 5,153-94 ft.; comp. 350 bbls.
Sinclair Prairie Oil Co.'s No. 8 Wilburn (W.O.), Henry Griffith League	T.D. 5,371 ft.; sidetracked at 3,075 ft. and drlg. sand 5,262 ft.
Sinclair Prairie Oil Co.'s No. 15 Wilburn, Henry Griffith League, 150 ft. W of No. 14	Derrick.
Sun Oil Co.'s No. 11 J. Wilburn (W.O.), Wm. Hedges Sur.	Drlg. shale and sand showing oil 5,272 ft.
Sun Oil Co.'s No. 17 Wilburn, Henry Griffith League, 150 ft. W of No. 6 and 50 ft. S of N line	Derrick.
Texas Co.'s No. 7 Wilburn (W.O.), Henry Griffith League	Drlg. sand 5,140 ft.
Texas Gulf Prod. Co.'s No. 3 C. Kirby (W.O.)	T.D. 5,239 ft.; sidetracked and drlg. new hole in lime 4,517 ft.

(Continued on Page 60)

Carthy and others' No. 1 Harrison, William Jones Survey, southeast of Houston. The test was drilled a total depth of 6,715 feet and abandoned in shale.

Tomball

In the Tomball Field, Harris County, Humble Oil & Refining Co.'s No. 1 Bloecher, J. N. Hooper Survey, was reworked and recompleted for 21 bbls. an hour through a one-quarter inch choke from a total depth of 5,580 feet. Same company's No. 1 Gebhart, William Perkins Survey, was drilling in shale at 6,572 feet on the last report. It is southeast of the Tomball Field. Humble Oil & Refining Co.'s No. 1 Hennrich, in William Hurd Survey, was drilling in shale at 5,594 feet.

Conroe

At Conroe Field, Montgomery County, a dry hole, was found in the center of other producing wells. This was Tide Water Oil Co.'s No. 12 Dean, W. C. C. Lynch Survey, drilled to a total depth of 6,020 feet and then plugged to 5,003 feet, where it was tested and abandoned. It is offsetting three other wells. In the south edge of the Conroe Field, Malta Oil Co.'s No. 2 Tex-Osage, G. Harris Survey, was completed for 5,000,000 feet of gas at a total depth of 5,147 feet. A total of nine other wells were completed in the field during the week.

West Texas Fields

(Continued from Page 40)

Jack, oil sand 1,403-06 feet, initial production 5 bbls. of oil and 5 bbls. of water, total depth 1,406 feet. M. D. Goldsmith's No. 1 Beardon, dry and abandoned, total depth 1,130 feet. Jack Trace's No. 2 Andrews, sandy lime 870-79 feet, initial production 15 bbls., total depth 879 feet. W. B. Hamilton's No. 1 Coffield, sandy lime 1,184-94 feet, initial production 200 bbls., total depth 1,194 feet; No. 3 I. Kard, sandy lime 1,162-71 feet, initial production 487 bbls., total depth 1,171 feet; No. 4 I. Kard, sandy lime 1,155-65 feet, initial production 85 bbls., total depth 1,165 feet; No. 3 Pace, sandy lime 1,178-83 feet, initial production 65 bbls., total depth 1,183 feet; No. 4 Pace, sandy lime 1,169-78 feet, initial production 85 bbls., total depth 1,178 feet.

King and Krohenbuhl's No. 1 Ray, dry and abandoned 1,355 feet. A. Z. Kouri's No. 1 Montgomery, oil sand 1,116-24 feet, initial production 6 bbls., total depth 1,124 feet. Jessie Lincoln's No. 4 Ray, oil sand 1,126-32½ feet, initial production 10 bbls. oil and 5 bbls. of water, total depth 1,132 feet. W. B. Omohundro's No. 7 Turbeville, dry and abandoned, total depth 1,481 feet. Panhandle Refining Co.'s No. 1 Sheckill, sandy lime 1,175-86½ feet, initial production 395 bbls., total depth 1,186 feet; No. 2 Sheckill, sandy lime 1,193-1,200 feet, initial production 15 bbls. of oil and 20 bbls. of salt water, total depth 1,202 feet. Rathke Oil Co.'s No. 1 Haytor, dry and abandoned 1,464 feet. Wichita Production Co.'s No. 1 Andrews, sandy lime 876-88 feet, initial production 10 bbls., total depth 888 feet.

Clay County

Texas Co.'s No. 1 George, oil sand 1,129-31 feet, initial production 125 bbls., total depth 1,131 feet.

Jack County

McLaughlin's No. 1 Cantwell, dry and abandoned, total depth 555 feet. F. C. Meredith's No. 1 J. M. Ballou, gas sand 1,796-99 feet, initial production 3,000,000 feet of gas, total depth 1,799 feet. Le Roy Slusher's No. 1 Rollins, dry and abandoned, total depth 610 feet.

Throckmorton County

J. H. Pearman's No. 2 Tutor, oil sand 770-83 feet, initial production 15 bbls., total depth 783 feet.

Montague County

Bridwell Oil Co.'s No. 1 York, dry and abandoned, total depth 1,210 feet. Lesh and McCall's No. 1 Cunningham, dry and abandoned, total depth 935 feet. Reitz, Comegys and Reitz's No. 1 Holt, oil sand 1,611-16 feet, initial production 153 bbls. flowing, total depth 1,616 feet.

Wichita County

M. A. Hamilton's No. 1 McKinley, dry and abandoned, total depth 665 feet. R. R. Clark's No. 30 Beckley, oil sand 842-67 feet, initial production 40 bbls., total depth 867 feet. Ted Cooper and others' No. 2 Waggoner Brothers, oil sand 286-91 feet, initial production 10 bbls. of oil and 2 bbls. of water, total depth 314 feet; No. 3 Waggoner Brothers, dry and abandoned, total depth 1,888 feet. Taiding & Cochran's No. 3 Waggoner Brothers (recompleted), plugged back to 1,287-1,305 feet, initial production 5 bbls., total depth 1,530 feet. Ryan Petroleum Co.'s No. 10 Nance, dry and abandoned, total depth 1,667 feet.

Wilbarger County

Phillips Petroleum Co.'s No. 4 Waggoner, oil sand 2,304-16 feet, initial production 25 bbls. after shot, total depth 2,316 feet. Waggoner Refining Co.'s No. 2 Waggoner, oil sand 1,275-79 feet, initial production 15 bbls., total depth 1,279 feet; No. 3 Waggoner, oil sand 1,270-74 feet, initial production 17 bbls., total depth 1,274 feet. Waggoner Brothers' No. 1 Waggoner, oil sand 1,922-26 feet, swabbed 46 bbls. in 24 hours, total depth 1,926 feet. Luther Webb's No. 2 Waggoner, oil sand 1,882-93 feet, initial production 198 bbls., total depth 1,893 feet.

Wise County

R. T. Nail's No. 1 Coffman, dry and abandoned, total depth 1,045 feet.

Young County

Beavers and others' No. 2 Montgomery, oil sand 607-13 feet, initial production 90 bbls., total depth 613 feet. Brazelton and others' No. 8 Track, dry and abandoned, total depth 757 feet. F. E. Butler's No. 2 Jones, dry and abandoned, total depth 630 feet. Campbell and others' No. 4 Campbell, oil sand 878-83 feet, initial production 45 bbls., total depth 883 feet. Deninger and others' No. 1 Stewart, dry and abandoned, total depth 560 feet; No. 2 Stewart, dry and abandoned, total depth 531 feet. H. Y. Oil Co.'s No. 10 Larimore, oil sand 696-713 feet, initial production 50 bbls., total depth 713 feet. Hirshell Stine's No. 1 Rayburn, dry and abandoned, total depth 940 feet.

Humble Oil & Refining Co.'s No. 15 Mercer, oil sand 1,024-72 feet, initial production 10 bbls., total depth 1,072 feet. Iron Mountain Oil Co.'s No. 1 Robinson, oil sand 670-78 feet, initial production 20 bbls., total depth 692 feet; No. 2 Robinson, oil sand 676-96 feet, initial production 13 bbls., total depth 696 feet; No. 21 Tatum, oil sand 655-65 feet, initial production 30 bbls., total depth 665 feet. Kimmell & Lee's No. 1 S. E. Black, dry and abandoned, total depth 782 feet. Lowe Farm Oil Co.'s No. 7 Lowe, oil sand 630-48 feet, initial production 50 bbls., total depth 648 feet. Panhandle Refining Co.'s No. 1 Jebbs, dry and abandoned, total depth 703 feet. Petroleum Production Co.'s No. 4 Belknap, oil sand 679-84½ feet, initial production 50 bbls., total depth 684½ feet. Sams & Watson's No. 5 Liftin, oil sand 539-51 feet, initial production 3 bbls., total depth 551 feet. Snoddy & Sommers' No. 1 Jose, dry and abandoned, total depth 1,082 feet. Texas Plains Oil Co.'s No. 4 Jarvey, oil sand 744-52 feet, initial production 35 bbls., total depth 752 feet.

Wheeler & Brashear's No. 1 Jeffery, oil sand 751-58 feet, initial production 210 bbls. in 24 hours, total depth 758 feet. White & Duncan's No. 2 Smith, oil sand 708-13 feet, initial production 90 bbls., total depth 713 feet; No. 4 Smith, oil sand 705-11 feet, initial production 100 bbls., total depth 711 feet; No. 3 Smith, dry and abandoned, total depth 739 feet; No. 5 Wolf, oil sand 694-98 feet, initial production 100 bbls., total depth 698 feet. D. L. Wolf's No. 5 Wolf, dry and abandoned, total depth 737 feet.

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Kansas Produces Its Marketable Requirements Rather Than Its New Crude Oil Allowable

By JAMES McINTYRE

The efforts of Kansas oil men to have their allowable production increased to 131,000 bbls. per day met with failure in Washington. A. L. Derby and Ralph Pryor, representing the complainants, journeyed to the nation's capitol to interview the powers who had allotted 111,000 bbls. per day as Kansas' share of the 2,400,000-bbl. production allowed the United States after September 11. They showed figures to prove that there was a market for 131,000 bbls. or more, of Kansas oil, but they did not succeed in inducing Secretary Ickes to make a change.

Kansas produced over 130,000 bbls. a day in the week ending September 16, or 19,000 bbls. a day more than the government authorities say is that State's share. It is 17 per cent more than its allowable. Like their Oklahoma brethren the Kansans increased rather than decreased their daily output of oil.

Operators in pools in Ellis and Russell Counties are asking for higher allowables. They claim the corrosive water from the Dakota sand is playing havoc with their well equipment and they want to be able to get their production out as quickly as possible. They ask for a 3,000-bbl. per day allowable instead of the present 1,800-bbl. allowable.

Production of Pools

The estimated average daily production of a number of pools and fields in Kansas for the week ending September 16 and for the preceding week follows:

	Sept. 16	Sept. 9
Hollow	15,465	11,910
Ritz-Canton	21,515	20,925
Voshell	6,535	6,760
Sedgwick County	10,290	9,379
Nikkel	4,440	6,850
Ellsworth County	4,783	3,439
Rice County	7,299	6,547
Barton County	624	345
Reno County	2,100	1,884
Greenwood County	11,300	11,200
Butler County	18,400	18,400
Other Pools	27,349	29,745
Total	130,100	127,375

Harvey County

In the Burrton area, Harvey County, Olson & Shell Petroleum Corp.'s No. 2 Day, C NW NW Section 19-23-3w, was treated with 1,000 gallons of acid at 3,340-75 feet. It swabbed 220 bbls. of oil and 50 bbls. of water in 20 hours. It is a completion. Same operators have rig up for No. 2 Gorwin, C NW SE Section 35-23-4w, over the line in Reno County.

In the Hollow Pool, Harvey County, Shell Petroleum Corp.'s No. 1 Nikkel, NW SE SW Section 8-22-3w, was opened after having been shut in since late in August. It flowed 375 bbls. in 24 hours, and was completed.

Derby Oil Co.'s No. 4 Schmidt, NE SW NW Section 17-22-3w, was acidized with 1,000 gallons. It swabbed 5 bbls. an hour. Drilling was continued, and Viola was topped at 3,554 feet, and the well was drilling at 3,556 feet.

Skelly Oil Co. and Selby Oil & Gas Co. completed No. 4 Schmidt, NW SW NW Section 17-22-3w. It was treated a second time with 1,000 gallons of acid and swabbed 307 bbls. in eight and one-half hours. The pay was at 3,433-40 feet.

Sinclair Prairie Oil Co.'s No. 2 Neufeldt A, CEL SE Section 18-22-3w, flowed 600 bbls. in 12 hours, total depth 3,180 feet.

Mid-Kansas Oil & Gas Co.'s No. 4 Duerkson, NE SE NE Section 19-22-3w, pumped 1,142 bbls. in 48 hours, after a 1,000-gallon acid treatment. Hunton lime was found at 3,470-92 feet. Same company's No. 5 Duerkson, SW NE Section 19-22-3w, flowed 476 bbls. in 12 hours from Hunton lime at 3,425-36 feet. It was completed.

Producers & Refiners completed No. 5 Martens, SW NW SE Section 19-22-3w. Hunton lime at 3,384-3,406 feet was acidized with 1,000 gallons. The well swabbed 240 bbls. of oil in eight hours.

Sinclair Prairie Oil Co.'s No. 3 Ediger, NE SE SW Section 19-22-3w, flowed 783 bbls. in 10 hours and then bridged. It was being cleaned out. It is a Hunton lime producer, with pay at 3,327-54 feet.

New work in the Hollow Pool includes the following: Shell Petroleum Corp.'s No. 1 V. Neufeldt, SE SW NW Section 8-22-3w, cellar; Hollow and others' No. 4 Schmidt, NW SE NW Section 17-22-3w, rigging up rotary; Mid-Kansas Oil & Gas Co.'s No. 2 Duerkson, SW SE NE Section 19-22-3w, drilling deeper, from 3,233 feet, new total depth 3,282 feet; Stanolind Oil & Gas Co. and Amerada Petroleum Corp.'s No. 4 Froese, NW cor. Section 20-22-3w, rig up; Magnolia Petroleum Corp.'s No. 3 Schmidt, NW NE Section 30-22-3w, a rig. (No. 2 was completed last week as an 800-bbl. well.)

McPherson County

In the Nikkel area in McPherson County, Gled and Shell Petroleum Corp. abandoned No. 1 Schroeder, SW SE Section 82-21-3w, which was a hole full of water in Wilcox sand at 3,572-80 feet.

Mabee and Shell Petroleum Corp.'s No. 2 Nikkel, SE NE SW Section 33-21-3w, got Hunton lime at 3,468-74 feet and the well swabbed 35 bbls. per hour. Same operators have rig up for No. 2 Friesen, NE SE SE Section 33-21-3w, and locations made for No. 3, SW cor. SE and No. 4, SE cor. SW Section 33.

In the Johnson Pool, McPherson County, Continental Oil Co. completed No. 1 Tipton, NW SW NE Section 2-20-3w. It was treated to 1,000 gallons of acid, and swabbed 130 bbls. in 24 hours, which was no better than it had done naturally. Production comes from 3,026 to 3,053 feet.

In the Ritz-Canton Field Stanolind Oil & Gas Co., Amerada Petroleum Corp. and W. C. McBride, Inc.'s No. 4 Lovett, SW cor. Section 13-19-2w, which got a Viola pay at 3,378-3,403 feet pumped 512 bbls. in 24 hours after a 1,000-gallon acid treatment.

Wolf Creek Oil Co. and others' No. 3 Krehbiel, NW cor. Section 25-19-2w, drilled deeper from 2,973 feet. At 3,394-3,400 feet, Viola pay was found and the well swabbed 4 bbls. per hour. It will be acidized.

Youker and others' No. 2 Eaton, SW NE Section 26-19-2w, an old well drilled deeper, pumped 300 bbls. in 24 hours, after an acid treatment. It is a Viola lime producer at 3,389-3,414 feet. Same operators No. 4 Eaton, SE NW NE Section 26 got chat at 2,920-84 feet and have an estimated 200-bbl. well. Rig is on the ground for No. 6 Eaton, NE NW NE Section 26.

Wildcat Operations in Kansas

(Descriptions are East unless marked otherwise)

Company, farm and location—	Remarks:
BARTON COUNTY	
Atlantic O. P. Co.'s No. 1 Schneider, C NE SW Sec. 15-20-13w	Spudded; S.D. for wtr.
Helmerich & Payne's No. 1 Everhigh, C SW SE Sec. 13-18-13w	S.D. 1,750 ft.
Skelton et al's No. 1 Ott, C SE SE Sec. 16-19-14w	O.W.D.D.; T.D. 3,706 ft.; in granite; S.D.
BUTLER COUNTY	
Hartman et al's No. 1 McCann, SE SW NW Sec. 7-25-3	Acidized at 2,791-2,801 ft.
COWLEY COUNTY	
E. Yarnell's No. 1 Speer, SE NE NE Sec. 31-33-6	S.D. 1,800 ft.
DICKINSON COUNTY	
Dutch Oil Co.'s No. 1 Phillips, C NE NW Sec. 15-15-1	Spudded and S.D.
DOUGLAS COUNTY	
Haslett et al's No. 1 Churchbaugh, C SW SW Sec. 10-14-19e	Dry and abd. 1,275 ft.
FINNEY COUNTY	
National Ref. Co. et al's No. 1 Smith, C SE SW Sec. 2-23-29w	Rigging up.
GEARY COUNTY	
Ledaurie' No. 1 Fechner, C SE NE Sec. 27-13-5	S.D. 967 ft.
GRAHAM COUNTY	
Schlotmeyer et al's No. 1 Smith, SE Sec. 24-8-25w	Abd. 4,180 ft.
HARVEY COUNTY	
Holbart Oil Co.'s No. 1 Harder, SE SW SE Sec. 11-23-1e	Drlg. 1,445 ft.
L. H. Wentz' No. 1 Beatvater, SW SE SW Sec. 8-22-1e	Drlg. 2,300 ft.
KINGMAN COUNTY	
D. R. Lauck et al's No. 1 Church, SE SW NE Sec. 10-28-6w	Drlg. 3,945 ft.
Olson and Skelly Oil Co.'s No. 1 Emery, C SW NW Sec. 32-25-6w	Spudding.
Regina O. & G. Co. et al's No. 1 Wilson, NW NE	Rigging up.
MARION COUNTY	
Hutchinson Oil & Gas Co.'s No. 1 Miller, NW cor. Sec. 6-17-3	S.D. 2,700 ft.
Holbart Oil Co.-Shell Pet. Corp.'s No. 1 Gingras, NE SW Section 8-24-1e	Drlg. 185 ft.
McPHERSON COUNTY	
Sever and Hessman's No. 4 Scrag, S½ SE Sec. 32-19-4w	Rig on ground.
Regina O. & G. Co.'s No. 1 Vogts, C SE SE Sec. 8-20-1w	Drlg. 2,550 ft.
Roth & Faurot's No. 1 Swanson, NE SW NE Sec. 13-19-3w	Rig.
Jim Madison's No. 1 Boesker, SE NW Sec. 29-20-1w	Spudded.
Paramount Oil Co.'s No. 1 Steinkirchner, NE SE SE Sec. 25-19-1w	S.D. for repairs, 3,431 ft.
PRATT COUNTY	
Ninnescah O. & G. Co.'s No. 1 Hardesty, SW SE SE Sec. 28-27-11w	H.F.W. 4,417-27 ft.; pulled 8-in. pipe and P.B. to 3,640 ft.
RENO COUNTY	
Watchorn O. & G. Co.'s No. 1 Soper, C NE NE Sec. 31-25-4w	Drlg. 3,935 ft.
Mylius et al's No. 1 Patton, SE NE Sec. 26-23-5w	Drlg. 3,988 ft.
Roth & Faurot's No. 1 Yoder, C NW NW Sec. 15-24-5w	Crooked hole; S.D.
RICE COUNTY	
Garden et al's No. 1 Thedel, C NW NW Sec. 11-21-7w	T.D. 3,230 ft.; swbd. 23 bbls. in 1 hr.
STAFFORD COUNTY	
Atlantic Oil Prod. Co.'s No. 1 Willinger, C NE NE Sec. 18-22-11w	Rig.

Mid-Kansas Oil & Gas Co.'s No. 2 Garrett, NW SW NE Section 29-19-1w, found Viola lime at 3,411-19 feet. It pumped 175 bbls. in 12 hours after an acid treatment.

Phillips Petroleum Co. and Shell Petroleum Corp.'s No. 3 Garrett, SW NW NE Section 30-19-1w, pumped 144 bbls. in 24 hours. It was acidized in Viola lime at 3,417-25 feet.

Barton County

In the Isern Pool, Barton County, Hilligoss and others' No. 2 Isern, SW NE NE Section 12-20-11w, pumped 26 bbls. per hour from Siliceous lime topped at 3,318 feet, total depth 3,341 feet. It was being cleaned out.

Rice County

In Rice County Eldorado Refining Co. has rig up for a wildcat test, No. 1 Wernet, SW cor. NE Section 12-20-6w. Atlantic Oil Producing Co. has rig up for No. 1 Brandenstein, C SE SE Section 10-19-10w. Ramsey Brothers and others are moving in tools for No. 1 Day, NE SE Section 31-19-9w, Chase townsite.

It was an unusually uneventful week in the Chase townsite pool. There were no completions, but some new wells were showing oil. Ramsey and others' No. 1 Methodist Church, SE NE Section 31-19-9w, swabbed 35 bbls. an hour for a short time, from Siliceous lime at 3,230-67 feet, but it had not been fully tested. Maxcourt Oil Co.'s No. 1 Adams, Block 6, Townsite, SW Section 32-19-9w, got Siliceous lime pay at 3,263-67 feet and the hole filled 1,500 feet with oil in four hours.

Ellsworth County

In the Stratman Pool, Ellsworth County, Aylward and others' No. 7 Stratman, NW SW SE Section 1-17-10w, got Siliceous lime pay at 3,250-63 feet. The well swabbed 8 bbls. per hour. It was shot with 30 quarts of explosive and was being cleaned out.

In the Stoltenberg Pool Derby Oil Co.'s No. 2 Stoltenberg A, NW cor. Section 22-16-10w, was drilled deeper to 3,369 feet. It swabbed 85 bbls. per hour.

Aylward and the Barnsdall Oil Co.'s No. 1 Wamhoff, NE NW NE Section 26-16-10w, Ellsworth County, was abandoned at 3,400 feet. It had been acidized in Siliceous lime but the small showing of oil was not increased.

Kingman County

Skelly Oil Co. made a location for No. 2 North Miles, CWL SE Section 19-27-10w, northwestern Kingman County. Same company's No. 1 Ratcliff, CEL NW Section 30-27-10w, which got salt water at 3,469 feet will be plugged back and acidized. It flowed 12½ bbls. per hour at 3,425-36 feet, with gas at the rate of 5,000,000 feet.

Sedgwick County

In the Greenwich district, Sedgwick County, Shell Petroleum Corp.'s No. 7 Lygrisse A, SW NE NE Section 15-26-2, swabbed 85 bbls. in eight hours, but after being acidized swabbed 835 bbls. in 12 hours. This well produced from chat at 2,876-85 feet and Viola lime at 3,163-65 feet. Same company made a location for No. 8 Lygrisse A, CSL NE Section 15.

Greenwood County

Arthur Lykes and others' No. 1-A Shell, CNL SE SE SE Section 31-25-11, Greenwood County, was treated with 500 gallons of acid after having been plugged

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Oklahoma Produces Far More Than Allowable In the First Week of the New Deal in Oil

By JAMES McINTYRE

Commencing on September 11 Oklahoma was supposed to be producing crude oil at the average rate of 540,000 bbls. per day, but for the week ending September 16 it produced at the rate of 564,640 bbls. per day. It produced less oil before it was cut to 540,000 bbls. than it has since. The past week's production was about 51,000 bbls. a day in excess of the daily average for the previous week, and 24,640 bbls. higher than its allowable. It was a poor start.

It is needless to say that if the other oil states do not co-operate with the Government's program any better than Oklahoma did in the first week the program was put into effect the results to the industry may be disastrous.

With a higher price for crude and the chances good for $1.11 per barrel for 36-gravity Mid-Continent oil and corresponding increases in other producing divisions, the producer's duty is clear.

The allowable production fixed by Secretary Ickes for the United States, 2,409,700 bbls. per day, is about 300,000 bbls. a day higher than some oil men would have made it. If producers are to keep the higher prices already given them, and if they expect still greater returns per barrel, there must be co-operation.

Allocates the Allowable

The Corporation Commission, in line with the petroleum code for the petroleum industry, lowered the allowable production of Oklahoma to 450,000 bbls. per day, effective September 11. The production was allocated as follows:

Oklahoma City:	
Wilcox sand	154,413
Simpson sand	59,823
Fault line	579
Total	214,815
Greater Seminole:	
Seminole City, etc.	80,596
Maud	1,739
St. Louis	21,137
Asher-Wanette	2,217
Konawa	2,754
Sasakwa	1,201
East Earlsboro (Calvin sand)	3,454
Allen	9,818
Sasakwa townsite	1,153
Total	124,169
Fish (Cromwell sand)	3,207
Fish (Simpson sand)	412
Tatums	8,967
Knox	854
Lucien	6,832
Class D	700
Miscellaneous	180,044
Total Oklahoma	540,000

Oklahoma Daily Production

Estimated daily average production in Oklahoma pools for the week ending September 16 and for the preceding week follows:

Field or pool—	Barrels— Sept. 16	Sept. 9
Allen	11,465	11,225
Bowlegs	13,475	12,675
Bristow-Slick	11,150	11,150
Burbank	9,600	9,700
Lucien	4,195	5,080
Carr City	7,600	8,195
Earlsboro	12,095	10,975
East Earlsboro	17,705	16,100
South Earlsboro	1,835	1,820
Little River	20,310	20,600
East Little River	1,065	830
Oklahoma City	222,725	173,155
Seminole	13,560	12,285
East Seminole	1,730	1,845
Searight	3,170	2,935
Maud	1,540	1,520
Mission	5,960	5,915
Cushing-Shamrock	13,000	13,000
St. Louis-Pierson	29,840	30,620
Tatums	9,000	8,500
Sholem Alechem-Tussey	5,250	5,250
Other pools	148,370	148,485
Total Oklahoma	564,640	513,860

Defines Open Flow Test

The State Supreme Court in the past week ruled that an open flow potential test of an oil or gas well should be interpreted to be one without restrictions of chokes or other appliances. The decision, written by Justice Orel Busby in the appeal of Oils, Inc. was given in the case of its No. 1 Ross, a townlot well in the Oklahoma City Field. The commission had declined to adjust the potential to an open flow basis after the well had been tested through a 3⅝-inch choke. The well in question was originally one of the largest in the field. It came in on October 4, 1930, and its production for 1 hour and 25 minutes was said to have been 8,958 bbls., or at the rate of 144,000 bbls. per day. A choke was installed to prevent the well from cutting its connections and flowing wild. It was feared to give the well an open flow test, or even to remove the choke owing to the size of the well. Later when the company was charged with having overproduced 1,000,000 bbls. of oil the company claimed that it had not taken more than its share of the oil from the common pool because it had always produced on a choke and not on open flow as provided by the rules of the commission. The last test taken on a choke showed a potential of 56,443 bbls. per day. The decision instructs the Corporation Commission to determine the potential on an open flow basis and the commission is wondering how this can be done, as technical men disagree on the question.

The most interesting test in Oklahoma at this writing is Rapp and others' wildcat in Section 19-14-3w, in northern Oklahoma County. Wilcox sand was found at 6,680-88 feet. Casing was set and cemented and the crew was waiting for the cement to set. Before the end of the week work should be resumed on this test and the fate of another Oklahoma County wildcat determined soon afterward.

New Wells in Osage

The Indian Territory Illuminating Oil Co. and Palmer's No. 1, C NE NE NW Section 8-25-6, Osage County, was shot with 110 quarts of explosive in Bartlesville sand at 2,786-7,822 feet and swabbed 60 bbls. in two hours, but the fluid was exhausted. It then filled up 300 feet with oil in one hour, and was being cleaned out.

Producers & Refiners Corp.'s No. 1, SW cor. NW Section 15-24-7, got Bartlesville sand at 2,575-2,615 feet. A 100-quart shot was followed by an initial production of 187 bbls.

Gypsy Oil Co. and Continental Oil Co.'s No. 1, C SW SW SE Section 12-23-7, found Hominy sand at 2,823-94 feet, and the hole filled 1,000 feet with oil. Siliceous lime was found at 2,894-2,901 feet, total depth. There was no increase in oil. The test was shut down for tankage.

Texas Co.'s No. 1, SE cor. NW Section 12-23-7, a Cleveland sand well which came in some time ago at 110 bbls. from 1,609-17 feet, was swabbed and made 42 bbls. of oil and 51 bbls. of water in 24 hours. The water was being shut off.

Clint Moore Estate's No. 2-A, CNL SW SW SE Section 27-29-9 (corrected location), is an 8-bbl. well at 1,098-1,110 feet.

Considerable new work was started in this old oil-producing county in the week in review. Peters Petroleum Corp. and Producers & Refiners Corp. set 8-inch pipe at 505 feet in No. 4, CSL SE NW NE Section 24-24-7. E. O. Plattner was rigging up to drill deeper in No. 9, NW SW NE Section 30-22-9, old total depth 503 feet. Branstetter and others were rigged up on No. 2, SE NE SE Section 28-22-11. Murringold and others made a location for No. 2, CEL SW SE NE Section 25-21-8. C. T. Matthews had machine in for No. 2-A, CNL SE NE NW Section 26-21-9. Norbla Oil Co. had resumed drilling No. 1, NE cor. NW Section 1-20-11, total depth 1,987 feet.

Northwestern Counties

In Kay County, Blauer and others' No. 1 Maple, a wildcat, NE NW SE Section 20-27-4, had Peru sand at 2,875 feet, a hole full of water at 2,914-25 feet, Oswego lime at 2,965 feet and was drilling at 3,000 feet.

In Alfalfa County, Acre and others' No. 1 Acre, a wildcat, C SW NE Section 14-24-11w, which had a showing of oil at 5,910-17 feet, was drilling at 5,936 feet in lime.

In the Lucien Pool in Noble County, the Shell Petroleum Corp.'s No. 1 Schoenwald, C NW NE was taking potential test. This well was reported two weeks ago. In the past week it flowed 3,570 bbls. in 6 hours and 15 minutes and again it flowed 3,302 bbls. in six hours, or at the rate of over 12,000 bbls. per day. It also produced gas at the rate of 8,900,000 bbls. per day. Total depth is 5,153 feet. Seven other wells in the area are near completion. Stanolind Oil Co. and Continental Oil Co.'s No. 1 Boley, C SW NW Section 16-20-2w, which had 1,800 feet of water at 5,225 feet, plugged back to 4,789 feet, was running tubing to acidize. It had made a flow of about 140 bbls. and later swabbed 145 bbls. in 5½ hours in July from the formation to be tested.

Shell Petroleum Corp. and others were rigging up standard tools at a total depth of 5,083 feet on No. 1 Magney, C SW SW Section 17-20-2w; was rigging up standard tools on No. 1 J. Boley A, C NE NE Section 18-20-2w, total depth 5,044 feet and drilling at 4,895 feet in No. 1 O'Hern-Miller, C SE SE Section 18-20-2w. Continental Oil Co. was fishing for tools at 5,845 feet in No. 1 Hafner, C E half NE SW Section 18-20-2w. Top of the dolomite was found at 5,745 feet, or 720 feet lower than it was found in No. 1 Magney, in Section 17, about five-eighths of a mile southwest.

Okmulgee-McIntosh Counties

Rossiter Oil Co. is rigging up to drill deeper in No. 7 Burgess, CNL NE NW Section 20-12-13, southern Okmulgee County, old total depth was 2,128 feet. Penrod & Thompson are cleaning out to drill deeper in No. 2 Shepard, NE SE NW Section 29-12-14, McIntosh County, old total depth 2,181 feet.

Good Wells in Olive Pool

Johnson Oil & Refining Co.'s No. 3 Davis, CSL NE SE Section 19-19-10, got Red Fork sand at 2,128-74 feet. It was shot with 240 quarts of explosive and swabbed 114 bbls. the first 24 hours.

L. B. Jackson's No. 5 Wills, NW SW NW Section 26-18-8, Olive Pool, was shot with 140 quarts in Layton sand at 1,330-73 feet and flowed 275 bbls. the first 24 hours.

Merritt and others' No. 6 Richards, CNL NE NE Section 27-18-8, got Layton sand at 1,330-64 feet. It made 75 bbls. the first day, following a 140-quart shot.

F. O. Akin and others' No. 3 Tiger, NW SW SE Section 34-18-8, found Layton sand at 1,245-80 feet. It was shot with 130 quarts and flowed 125 bbls. the first day.

Merkle & Frame got a dry hole in No. 1 Cruel, NW cor. SW Section 31-17-12. Wilcox sand was penetrated at 2,660-76 feet and the hole filled with water.

Dickerson and others' No. 1 Barnett, C SE NE SW Section 19-15-10, was a hole full of water at 3,612-22 feet, and was abandoned.

National Refining Co. made a location

Wildcat Operations in Oklahoma

Northern Oklahoma

ALFALFA COUNTY

Company, farm and location— Remarks:

Acre et al's No. 1 Acre, C SW NE Sec. 14-24-11w.....Drlg. 5,936 ft.

BECKHAM COUNTY

Pattee Royalty Co.'s No. 1 Goose Tree, SW SE SW SE Sec. 32-10-23w .....Drlg. lime 3,950 ft.

CADDO COUNTY

Denver P. & R. Co.'s No. 1 Noe, NW SW SW Sec. 24-10-10w .....S.D. 9,540 ft.

COAL COUNTY

Dodd & Barton's No. 1 Grigsby, NW SE NE Sec. 35-1-8..Shot 5 qts.; 1,000 ft. oil in hole.
Funk & Russell's No. 1 Miller, SE NE Sec. 10-2-8 .....Fishing 3,750 ft.

GARFIELD COUNTY

J. H. Lewis' No. 1 Clark, C NW NW Sec. 24-21-4w .....Drlg. 2,650 ft.

HUGHES COUNTY

Dixie-Lee Oil Co.'s No. 1 Taylor, C NW Sec. 27-8-10.....Drlg. 350 ft.
Pioneer Pet. Co.'s No. 1 Brock, SE cor. Sec. 26-5-11 .....Spudded in and S.D.
Redwine et al's No. 1 Badger, C N half SW SW Sec. 4-5-11 .....S.D. 330 ft.
Scruggs et al's No. 1 Black, NE Sec. 13-9-10 .....Rigging up.

KAY COUNTY

Blauner et al's No. 1 Maple, NE NW SE Sec. 20-27-4....Drlg. 2,542 ft.
Morgan et al's No. 1 Bush, NW NE NE Sec. 25-28-4....Drlg. 1,210 ft.
Burton Lewright et al's No. 1 Leseman, SW NE SE Sec. 4-28-2 .....Rig.

KIOWA COUNTY

Christian's No. 1 Jones, NE NW Sec. 6-7-18w .....S.D. 1,904 ft.
McWhirter et al's No. 1 Vanderneck, NE NW Sec. 3-7-19w (O.W.D.D.) .....S.D. 2,155 ft.

LINCOLN COUNTY

J. Garfield Bull's No. 1 Smith, NW SE Sec. 26-16-6... H.F.W. 3,884 ft.; abd.
Amerada Pet. and Stanolind O. & G. Co.'s No. 1 Martinek, NW SE Sec. 25-13-5e .....Cellar.
Amerada Pet. Co.'s No. 1 Long, C NW NW SW Sec. 12-13-6 .....Drlg. 3,665 ft.

MARSHALL COUNTY

Robb et al's No. 1 Vittitoe, NE SE Sec. 11-5s-4e.....Rigging up rotary tools.

MURRAY COUNTY

A. E. Harden's No. 1 Sadler, NE Sec. 19-1-2.....Rig.
T. E. Revells et al's No. 1 Wolfe, NE cor. Sec. 13-1-2...Drlg. 400 ft.

MUSKOGEE COUNTY

J. S. Routt et al's No. 1 Escoe, CWL SE NE Sec. 17-13-17 Drlg. 905 ft.

(Continued on Next Page)

for No. 11 Futrell, SW NE Section 1-19-9.

J. A. Hull has machine in for No. 1 Deer, SE SW NW Section 22-18-8.

F. O. Akin and others' No. 1 Tiger, NE NW SE Section 34-18-8, was rigged up. Doss and others were rigged up on No. 1 Tiger, SE NW NE Section 34-18-8, and Kilgore and others were rigged up on No. 1 Tiger, NE SW NE Section 34-18-8. F. O. Akin has made location for No. 1 Harry, NW SE SW Section 35-18-8. Frank Billingalea was drilling at 1,600 feet in No. 11 Wayman, SW SE NW Section 22-15-8.

Tulsa and Wagoner Counties

Boyd and others' No. 8 Horn, NE SE NW Section 23-18-14, Broken Arrow district, Tulsa County, swabbed and flowed 50 bbls. naturally from sand at 1,350-65 feet. J. B. Ash and others' No. 1-A Horn, NE cor. SW Section 24-18-14, made 10 bbls. in 24 hours after a small shot at 1,328-42 feet.

B. G. Goble's No. 1 Lovett, CSL NE SW Section 35-18-15, Wagoner County, flowed 100 bbls. naturally at 1,011-35 feet and was to be given a shot.

McIntire's No. 3 Tiger, SW NE NW Section 2-17-15, was shot with 90 quarts in sand at 1,081-1,104 feet. Oil rose in the hole 400 feet. No. 2 on this lease completed recently started at 240 bbls. after it had been shot.

McFadden and others' No. 2-A Bunger, NE SE NE Section 28-17-13, was drilling at 850 feet. G. E. Cahill was rigged up on No. 1 Atkins, NW SW NE Section 2-17-15, and had machine in for No. 1 B. Tiger, 200 feet south and 450 feet east of C Section 2-17-15.

Payne County

Deep Rock Oil Corp.'s No. 2 Harris, SW cor. NE Section 9-18-5, Payne County, was shut down at 3,530 feet. It swabbed 32 bbls. of oil from Misener sand at 3,491-95 feet and made gas at the rate of 5,000,000 feet per day.

Logan County

In the Crescent Pool in Logan County, the Sinclair Prairie Oil Co.'s No. 1 Short, SW NE Section 27-17-4w, had Layton sand at 4,921-71 feet with a showing of oil and gas. Nine-inch pipe was set at 5,011 feet and the crew was drilling out plugs.

Gypsy Oil Co. and Carter Oil Co.'s No. 1 T. Walker, C NE NE Section 33-17-4w, had Layton at 4,848-75 feet and a showing of oil and gas at 4,922-60 feet. The Gypsy-Carter 5,400-bbl. discovery well on the Miller farm in Section 28 produced from Wilcox sand at 6,120-41 feet. It is shut in. The Gypsy Oil Co. and Carter Oil Co. abandoned their location in the C NE NE NE Section 33, which was started after it appeared that the 1-well-to-40-acre agreement would be set aside.

Big Wells in Oklahoma City

In the Oklahoma City Field, Denver Producing & Refining Co.'s No. 1 Frisco Freight House, 1,168 feet south and 685 feet east of NW cor. Section 3-11-3w, got Wilcox sand at 6,365 feet and flowed 861 bbls. of oil in two hours, with gas at the rate of 8,000,000 feet per day.

Stauffer & Stephens and others' No. 1 Anderson, 354 feet south and 823 feet east of C Section 15-11-3w, got Wilcox sand at 6,385 feet, and drilled to 6,502 feet. The well flowed 389 bbls. in one hour and 40 minutes.

Phillips Petroleum Co.'s No. 2 Holstein, NE SW SW Section 22-11-3w, found Wilcox sand at 6,498 feet, total depth 6,600 feet. It flowed 350 bbls. in 30 minutes and later 2,110 bbls. in 4 hours with gas at the rate of 27,250,000 feet per day.

Transit Oil Co.'s No. 1 Fowler, near NE cor. SE SW Section 22-11-3w, on a test flowed 830 bbls. in four hours with gas at the rate of 29,000,000 feet. This well came in early in August flowing 557 bbls. in two hours and had been shut in.

Wilcox Pay in Keokuk Falls

The Carter Oil Co.'s Wilcox sand test in the Keokuk Falls area in northern Seminole County, No. 1 Ray, C W half NE NE Section 23-11-6, swabbed 438 bbls. in seven hours, 2 per cent water, from Wilcox sand at 4,531-38 feet. The same company's No. 1 Canard, C S half SW SE Section 35-11-6, which was plugged back from 4,488 feet to 4,062 feet, flowed 464 bbls. of oil and 68 bbls. of water in a test in the past week. Production comes from Hunton lime.

The Barnsdall Oil Co.'s No. 1 Noble, NE NW SW Section 18-9-6, in the East Earlsboro area, which was plugged back from 4,283 feet to a sand at 3,629-40 feet, was shot with 40 quarts but gave no response and the hole was plugged and abandoned.

Spears Drilling Co.'s No. 1-B Smith, SW NW Section 18-9-6, which was dry in the Calvin and Cromwell sands, and drilled through Caney shale and Mayes lime to a depth of 3,950 feet, was abandoned as a failure.

Phillips Petroleum Co.'s No. 5 Fixico, SE SW NW Section 20-9-6, an old Calvin sand well drilled deeper, found an initial production of 950 bbls. of oil and 10 bbls. of water in the second sand at 2,756-60 feet. It is a completion. No. 6 Fixico, a twin to No. 5, flowed 783 bbls. in 24 hours from Calvin sand on the gas lift. It is a completion.

In the South St. Louis area, Hall & Briscoe's No. 1 Brown, SW NW Section 33-7-4, Pottawatomie County, found Simpson sand at 4,132-48 feet. The well swabbed 26 bbls. and was swabbed down. It will be acidized.

Vaughn and others' No. 1 Lowther, NW NE SW Section 33-7-4, swabbed 1,095 bbls. in 22 hours, after a 1,500-gallon acid treatment. This is a dolomite producer that came in late in August. It was acidized twice.

Boettcher and Blackwell Oil & Gas Co.'s No. 3 Jacobs, NW SE SE Section 9-7-8, West Holdenville Pool, Seminole County, pumped 17 bbls. in two hours from Booch sand at 2,927-34 feet.

Phillips Petroleum Co.'s No. 3 Jacobs, SW NE NE Section 16-7-8, flowed 78 bbls. in 12 hours, following a 20-quart shot in Booch sand at 2,876-2,941 feet.

In the Asher district, in Pottawatomie County, Superior Oil Co.'s No. 1 Hamm, NE cor. Section 5-6-4, was drilled to 4,220 feet and plugged back to 4,218 feet. It was given 1,000 gallons of acid and later flowed 210 bbls. in 15 hours.

In the Konawa area, Malernee and others' No. 1 Tucker, NW SW NW Section 32-6-6, was dry and abandoned at 2,735 feet.

In the Sasakwa townsite, the Stanolind Oil & Gas Co., Amerada Petroleum Corp. and Indian Territory Illuminating Oil Co.'s No. 1 Reed, SW cor. Section 25-6-7, was put on air and made 2,007 bbls. in 15 hours.

New Work Started

New work started in the Greater Seminole area included the following operations: Atlantic Oil Producing Co.'s No. 1 Davis, SW NE SE Section 13-8-6, Seminole County, rigging up rotary; Dingee and others' No. 1 Thomas, SE NE NE Section 9-7-4, Pottawatomie County, drilling at 160 feet; Vivian Oil Co.'s No. 1-A Kanster, SE SW Section 18-7-4, a rig; Hilton Phillips and others' No. 1 Cherry, NE SW Section 21-7-4, drilling at 200 feet; Amerada Petroleum Corp.'s No. 2 Harrison, NE NW SW Section 33-7-4, drilling at 178 feet; Hall & Briscoe's No. 2 Brown, NW SW NW Section 33-7-4, drilling at 1,700 feet; Moebris' No. 1 Sullivan, SE NE NW Section 34-7-4, rig up; Helmerich & Payne's No. 1 Billington, SE SW Section 31-7-5, rigging up rotary; Elliott and Shell Petroleum Corp.'s No. 1-A Pickens, SE SW NE Section 15-7-8, drilling at 390 feet; Mainard and others' No. 4 Moore, C N half NW NE Section 22-7-8, West Holdenville area, drilling at 160 feet; Bradfield & Darbourne's No. 1 Gray, NW SW SW Section 25-6-4, cellar; Stanolind Oil & Gas Co. and Amerada Petroleum Corp.'s No. 1 Landowners, SE cor. Section 26-6-7, set 12-inch casing at 61 feet.

In Pittsburg County, the Utilities Producing Co.'s No. 1 Cooper, NE cor. SW Section 27-7-17, had a showing of oil and gas in sand at 2,226-2,450 feet. Same operator was moving in rotary for No. 5 State Bank, C NW NW Section 9-7-18.

In Pontotoc County, Patsy Oil Co. completed its No. 2 Burke, NE SE Section 25-5-4. It was shot with 100 quarts at 2,490-2,514 feet and swabbed 240 bbls. of oil in 24 hours. It showed some water.

Southern Fields

Southern Oil Co.'s No. 5 Seay (a twin), SW SE NW SE Section 3-7s-5w, Jefferson County, was completed. It made a 40-bbl. well at 1,080-1,102 feet.

L. E. Stewart and others' No. 1 Stewart, SE NE Section 2-4s-10e, Atoka County, was dry and abandoned at 2,051 feet.

Donald Brothers' No. 2 Wilson, NW SW NW Section 6-2s-9w, Stephens County, was dry and abandoned at 2,240 feet.

George Pace's No. 1-B McDonald, CEL SE NE NW Section 28-2s-7w, had 1,500 feet of oil in the hole from sand at 1,671-78 feet, and is estimated to be a 50-bbl. well.

New work in the southern counties included George Pace and others' No. 2 McDonald, CWL SE NE NW Section 28-2s-7w, Stephens County; Skelly Oil Co.'s No. 3 Pierce, SW NE SW Section 20-2s-10w, Cotton County, set 12-inch pipe at 93 feet; J. D. Boukan's No. 1 Howard, NW SW NW Section 20-2s-10w, drilling at 285 feet; Carter Oil Co.'s No. 1 J. A. Nicholson, C SW NE SW Section 3-1s-3w, Carter County, moving in tools; Carter Oil Co.'s No. 1 Gideon Gray, C SE NE NE Section 10-1s-3w, setting 12-inch pipe at 53 feet.

Kansas Fields

(Continued from Page 48)

back to 1,993 feet. Top of the Mississippi lime was found at 1,975 feet. No test had yet been made.

Ward & McGinnis were rigging up on No. 1-A Ester, NW NE SW Section 36-23-10. Harwood Oil Co. was drilling No. 6 Carson, NW cor. 33-23-11.

Polhamus & Smith's No. 7 Leedy, NW NE NW Section 36-22-9, was a hole full of water at 2,575 feet and was abandoned. It had a showing of oil in Bartlesville sand at 2,520-30 feet.

A crew was rigging up Mendenhall's No. 2 Hollister, SW SE SE Section 5-25-13.

Cowley County

In the Winfield district in Cowley County, M. B. Armer and others abandoned No. 1 Bowman, SE NE SW Section 2-32-4, at a total depth of 3,405 feet. Siliceous lime at 3,393 feet developed salt water and the hole filled with it. No oil showings were reported in any of the formations drilled.

Roth and Farout acidized their No. 2 Smiley, NE SE NW Section 12-32-4. It had pumped 40 bbls. initially, but 500 gallons of acid developed 125 bbls. production in a 24-hour pumping test. The oil comes from a limestone formation at 2,540-66 feet.

Hunt and Barker's No. 1 Denton, NW NE NW Section 10-31-8, Cowley County, was shot with 15 quarts in Kansas City lime at 1,956-83 feet. A small showing of oil resulted and the test will be acidized.

Hunt & Croft's No. 1 Burge, C SE NW Section 13-30-8, was abandoned as dry at 2,903 feet, a hole full of water at 2,552-60 feet.

Van Meter and others have rig on the ground for No. 1 Brooks, SW cor. Section 2-32-4.

Wildcats

Two wildcats in Reno County have commenced drilling. Olson & Skelly Oil Co.'s No. 1 Emery, C SW NW Section 22-25-6w, and Regina Oil & Gas Co. and others' No. 1 Wilson, NW NE Section 26-25-5w.

A Butler County wildcat, Hartman Oil Co. and others' No. 1 McCann, SE SW NW Section 7-25-3, was treated with 1,000 gallons of acid but had not been tested. Seven-inch pipe was set at 2,791 feet after the hole had been plugged back to 2,801 feet.

Holbart Oil Co. and Shell Petroleum Corp.'s No. 1 Klingensmith, a wildcat, NE SW Section 8-24-1e, Sedgwick County, was drilling at 185 feet.

Hutchinson Oil & Gas Co.'s No. 1 Miller, NW cor. Section 6-17-3, Marion County, was dry and abandoned at 2,795 feet.

Wildcat Operations in Oklahoma

(Continued from Preceding Page)

NOBLE COUNTY

Wentz & Feagen's No. 1 Eyler, C SE SW Sec. 10-21-2E. Dry and abd. 4,424 ft.

OKLAHOMA COUNTY

Houston et al's No. 1 Ketcham, CSL NW NE SE Sec. 12-14-3w. Drlg. 5,115 ft.

Mid-Continental Oil Co.'s No. 1 Edwards, C SE SE Sec. 19-11-1. S.G. 3,160-80 ft.; S.D. 3,341 ft.

H. E. Rapp's No. 1 Price, CEL NE SW Sec. 19-14-3w. Wilcox sand 6,680-88 ft.; T.D.; running csg.

F. Russell's No. 1 Heapley, SW NW NE Sec. 23-12-3w. Drlg. 6,590 ft.

PAYNE COUNTY

Kemp & Nunnelee's No. 1 Crane, SW SE SW Sec. 10-17-6 Drlg. 3,170 ft.

O. N. Maines et al's No. 1 Scheidberg, NW SW NW Sec. 27-22-6. Wilcox sand 3,114-38 ft; wtr.; S.D.

PITTSBURG COUNTY

Moffett & Hall's No. 1 Jones, C NE NW Sec. 14-8-14. S.D. 2,210 ft.

PONTOTOC COUNTY

Galbreath's No. 1 Stafford, NE SE SE Sec. 31-3-6. Drlg. 340 ft.

Gilbert's No. 1 Starritt, NW SE Sec. 32-4-6. Drlg. 1,313-30 ft; 5,000,000 ft. gas.

Choctaw O. & G. Co.'s No. 1 Thompson, SW NE SW Sec. 1-1-7. Drlg. sand 1,555 ft.

W. E. McGraw's No. 1 Mayhue, NE Sec. 19-2-6. Drlg. 1,180 ft.

McGee et al's No. 1 Newborn, SW NE Sec. 31-5-4. Rig.

Williams' No. 1 Kroth, NE SE Sec. 33-3-4. H.F.W. 1,977 ft.

Wirrick's No. 1 fee, SE SW Sec. 29-2-7. Sylvan at 3,451-54 ft.; flowed 38 bbls.; C.O.

Sledge et al's No. 1 Worley, SW SE SW Sec. 22-2-7w. Set 10-in. csg. 1,155 ft.; drlg. plug.

POTTAWATOMIE COUNTY

Payne Drlg. Co.'s No. 1 Lovelace, NW SW NW Sec. 27-6-4 T.D. 3,780 ft.; csg. collapsed.

SEMINOLE COUNTY

Sinclair Prairie's No. 1 Tierney, SE cor. Sec. 2-11-6. P.B. to 2,700 ft.; drlg. 3,550 ft.

Stewart & Egan's No. 1 Sanderson, NE SW Sec. 27-6-5. Drlg. 3,220 ft.

Filmlee's No. 1 Bowlegs, SE NE SW Sec. 1-7-7. Fishing for tools; T.D. 800 ft.

Armstrong et al's No. 1 Diamond, NE SE SW Sec. 8-6-7. Set 8-in. csg. 3,918 ft.; T.D. 4,044 ft.; H.F.W.; P.B. to 4,021 ft.; S.D.

Huffman Drlg. Co.'s No. 1 Scott, NW cor. SE. Drlg. 490 ft.

WASHITA COUNTY

McWhirter & Bost's No. 1 Hall, SW SE SE Sec. 33-8-19w. Drlg. 150 ft.

Southern Oklahoma

ATOKA COUNTY

J. D. Boukan's No. 1 Howard, NW SW NW Sec. 20-2s-10e Drlg. 285 ft.

Blake's No. 1 Galbreath, SW NE SE Sec. 5-1-15. Drlg. 248 ft.

Malernee et al's No. 1 Cole, NE NW Sec. 19-2s-14. Drlg. 638 ft.

L. E. Stewart et al's No. 1 Stewart, SE SE Sec. 2-4s-10. Dry and abd. 2,051 ft.

JEFFERSON COUNTY

Wakefield's No. 1 Kelly, NW SE Sec. 1-5s-8w. Drlg. 550 ft.

STEPHENS COUNTY

Doyle Oil Co.'s No. 1 Cunningham, SE NE NW Sec. 4-1-6w. Drlg. 2,500 ft.

TILLMAN COUNTY

J. H. Everett's No. 1 Crane, SW cor. Sec. 15-3s-14w. Rig.

MAJOR COUNTY

Paul R. Robb's No. 1 Vittitoe, C NE SE Sec. 11-5-4. T.D. 105 ft.; S.D.

North Government Wells Extending Northward; Interest Being Aroused in Trend to the East

By B. D. STEVENSON
Staff Correspondent, Southwest Texas Fields

SAN ANTONIO, Tex., Sept. 18.—One location at a time the North Government Wells Pool has been extended north till it is within 990 feet of the north line of Survey No. 360. The latest well in is Navarro Oil Co.'s No. 17 Hahl, 990 feet from the north line and 330 feet from the east line of the W half of Survey 360, producing 30 bbls. hourly from sand at the regular depth. It is a good average well for the field and the company has made location for No. 18 Hahl, 660 feet north of No. 17 and 330 feet from the north and east lines of the W half of Survey 360.

If No. 18 comes in a producer it will call for an offset on the north in Survey No. 208 by Magnolia Petroleum Co. and from that on north for a mile, if the field extends that far, it will be on Magnolia lease. Humble Oil & Refining Co. has the lease on the east half of Survey No. 360 and it is following the Navarro north with offsets.

At the south end of the North Government Wells Pool, Magnolia got a 15,000,000-foot gas well in No. 2 Hahl Southland in the northwest corner of Survey No. 61. It is an east offset to a gas well but two locations south of the two gas wells are two oil wells and Magnolia's gas well does not mean much as to the extension of the field merely setting off a little more on the west side as gas territory. The well that is being watched at the south end is Edgington's No. 2 Lundell, 200 feet from the north and east lines of the south half of the southeast quarter of Survey No. 48, three-quarters of a mile south of Magnolia's new gasser and 500 feet west. It is one location north of No. 1 Lundell that came in for a small oil well. It looks like somewhere in that region is the southwest limits to the North Government Wells Pool and if No. 2 should make a good sized well it would help define things. It had a dry sand at 2,300-05 feet and is testing a sand at 2,324-34 feet.

Completions

All of the completions the past week of producers in the Laredo district were in the North Government Wells Pool, four in number, the two mentioned and Navarro Oil Co.'s No. 8 Hahl, an inside location for 70 bbls. daily, and Texas Co.'s No. 5 Riggs, an inside location for 60 bbls. daily.

Only one wildcat was completed, Danvers & Harrison's No. 1 Benavides, east of the Carolina-Texas Pool, abandoned at a little below 2,400 feet.

Operators are studying the situation as to Conway & Campbell's No. 1 Hoffman in Survey No. 114, 5 miles southeast of the Sarnosa Pool, reported last week as a good gas well in Government Wells sand at 2,749-56 feet. It is claimed it really got the sand at 2,751 feet and so would be only 8 feet in the sand. Tests in the North Government Wells Pool get 30 and 40 feet of sand and set the casing low and cut off the gas. It is thought possibly No. 1 Hoffman would do the same if drilled deeper but a commercial gas well earned the bottom hole money and validated the leases and the operators did not care to run the risk of drilling deeper. It seems likely that the next drilling in the district will be by Plymouth Oil Co. from which company the block of leases was obtained, and subsequent drilling will explore the oil-producing possibilities.

The proposition is of more than ordinary importance because on a trend east of the Government Wells trend and along which there is no production except this gas well and three oil wells in the Driscoll Pool, 15 miles south.

Two miles northeast of the North Government Wells Pool, DeSoto Oil Co. is still working to plug back No. 2 Wood-Welder in Survey No. 211, drilled to 2,502 feet and now trying to plug back to around 2,156 feet where a sand showed a little oil and which made a small gas well in No. 1 Wood-Welder, 660 feet west. Another wildcat along this line, and the only other one is O. W. Killam's No. 1 Wood-Welder, a mile north of the DeSoto. At 2,405 feet Killam was coring, but with nothing much showing. At 2,356-61 feet he had a sand but was unable to get a drill stem test of it.

For the time being there is nothing in the Government Wells trend north through McMullen County at interesting depth. Three tests are either ready to spud in or have just spudded in. Bunte, Inc.'s No. 1 Lowe, in Survey No. 132; Paul C. Teas' No. 1 Hagist, in Survey No. 181, and Whisenant & Trenchard's No. 1 Martin, in Survey No. 108, all of them several miles northwest of the North Government Wells Pool, were all rigged up and ready to start at the close of the week.

Starr County

In Starr County it looks like Sun Oil Co.'s No. 3-A Guerra, farthest southeast test thus far drilled, was dry in the sand from which No. 1-A Guerra, discovery well, is producing. Discovery well got the sand at 2,208-32 feet, No. 3-A got a sand at 2,263-70 feet but it tested dry on drill stem test. It is a mile southeast of the discovery well and 3,000 feet east and a little south of No. 1-C which came in a big gas well. No. 3-A is continuing to drill. The company has made location for No. 4-A Guerra about a half mile north of No. 3-A and 4,000 feet southeast of No. 1-A.

Jim Hogg County

DeWitt's No. 1 Lopez, 8 miles northwest of the Sun's Cuevitas Pool and in Survey No. 106 of Jim Hogg County, the only wildcat at this time following the trend of the Sun's pool, at the close of the week was below 2,200 feet and due during this week to pick up the sand producing in the Sun field, if it is there.

There is one other locality of interest in Starr County, around Jeffries-Lambeth's No. 1 Starr County Cattle Co., 8 miles northeast of Rio Grande City that came in a big gas well at 2,450-55 feet. W. R. Shankle's No. 1 Garcia, a mile north and slightly east, at the close of the week was below 2,300 feet, and K. D. Harrison's No. 1 Garcia, a mile southeast, was spudded in. A few days will tell the tale as to Shankle.

Northeast of the Laredo district the past week two wildcat wells were busy with showings. In southwestern LaSalle County, Pacific Gulf Oils and C. B. Bunte, Inc.'s No. 1 Lastinger, in Survey No. 507, had a showing of gas at 2,150 feet in sand and was coring. It is about 1½ miles north of Bunte's No. 1 Coleman that had a showing of oil in sand at 2,175-80 feet and is running about 30 feet higher than No. 1 Coleman. It is coring and watching for additional showings.

In southwestern Live Oak County, Coquat & O'Neill's No. 3 Sanger, on a Phillips Petroleum Co. block, cored sand at 2,505-10 feet that was showing oil and gas and is preparing to run a drill stem test.

Balcones Fault Zone

In the Balcones fault zone the past week Fritz Fuchs, who brought in the discovery well in the Thrall Field in Williamson County 20 years or more ago, the first field to produce from Serpentine, got the attention of the industry with his No. 1 Zeischang, 8 miles southeast of Taylor in southeastern Williamson County. At 855 feet it went into Serpentine with a good showing down to 870 feet and set casing. Later when tested it bailed to the bottom and oil rose in the hole about 100 feet. It has since been deepened to 902 feet with some increase in oil but is not a big well yet. However, it may be the discovery well of a new Serpentine Field. Marts & Beavens' first test at Cedar Creek in southwestern Bastrop County, recently completed, was a small affair, too small for commercial purposes but the next test drilled made a 200-bbl. well at about 1,700 feet. It is understood that the Taylor refinery at Taylor, Tex., has since purchased the Fritz Fuchs deal in Williamson County and will continue to deepen.

None of the proposed new Edwards lime tests along the Balcones fault zone has started yet except Boler and others' No. 1 Milburn in Bexar County, 1,200 feet west of No. 1 Kearney that created a lot of excitement recently with 3 feet of good looking Edwards core. No. 1 Kearney failed to make a well and No. 1 Milburn located to the west is expected to be a better location, benefited by the knowledge of the log of No. 1 Kearney. No. 1 Milburn spudded in and set surface casing the past week.

The next test in the Balcones to return a verdict is C. J. Webster Oil & Gas Co.'s No. 1 Fulps in Caldwell County, southwest of the Dale Field and a half mile east of No. 1-A McCrory, drilled by Webster, that made a crevice producer, from the chalk. No. 1 Fulps is intended for an Edwards lime test and at about 2,000 feet at the close of the week it ought to get the Edwards over the week-end.

Wildcat Operations in Southwest Texas

Week Ending September 16

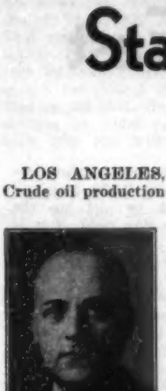
Company, well, farm name, section and block—	Remarks:
ATASCOSA COUNTY	
E. C. Burton's No. 1 Smith-Mowinkle, 2,100 ft. from N line, 200 ft. from W line of F. Perez Sur. No. 172.	T.D. 819 ft.; standing.
Texio Oil Co.'s No. 1 Reiffert & Frobese, 440 ft. SE along railroad from SE cor. of Blk. 55 of Catalina Hoey Sur. and 390 ft. SW at right angle in Juan Houlihan Sur.	T.D. 690 ft.; coring.
BASTROP COUNTY	
J. E. Emanuel's No. 1 H. Klemm, 317 ft. from W line, 300 ft. from S line of tract in R. S. Teal Sur.	T.D. 850 ft; standing.
Ca-Tex O. & G. Dev. Corp.'s No. 1 Pendergrass, 1,343 ft. from NE, 310 ft. from SE line of 130-ac. tract in Henry Warnell Sur.	Rigged up and S.D.
Three Oil Co.'s No. 1 M. Ingram, 1,250 ft. from SW line, 940 ft. from SE line of tract in M. Morgan Sur.	Derrick.
BEE COUNTY	
Grisham et al's No. 1 Powell, 990 ft. N, 660 ft. W of SE cor. of J. A. Reed Sur.	Spudded in.
Holland Oil Co.'s No. 1 Copeland, NE cor. of 400-ac. tract in Pace Sur.	Moving in heavier machinery.
BELL COUNTY	
Gus Winston et al's No. 2 Warrick, 100 ft. N of James Scoggins' No. 1 Warrick, in Elijah Ingram Sur.	T.D. 1,046 ft.; standing.
R. S. Wilson's No. 1 Davenport, 200 ft. from W line, 700 ft. from S line of J. L. Herred Sur.	T.D. 1,062 ft.; standing.
BEXAR COUNTY	
O. N. Beer's No. 1 S. W. Kearney, 150 ft. from S and E lines of 38-ac. tract in B. C. I. Perez Sur.	T.D. 1,475 ft.; temp. abnd.; rig moved to No. 1 Milburn.
A. M. Blume's No. 1 Ridder, 300 ft. from W line, 1,600 ft. from N line of tract in Sur. No. 58, County Blk. 1,596	T.D. 581 ft.; abnd.
F. J. Von Dolden et al's No. 1 Frank Webber, 150 acres in J. Montes No. 6	T.D. 40 ft.; spudded in and S.D.
I. L. Dingman's No. 2 Cassin Estate, 175 ft. from N line, 215 ft. from W line of 1,250-ac. tract in Rodriques Sur.	T.D. 325 ft.; drlg.
Dingman's No. 3 Cassin, 175 ft. from N, 130 ft. from W line of 1,250-ac. tract in Rodriques Sur.	T.D. 1,506 ft.; standing; drlg. No. 2 5 ft. away without moving rig.
Austin Hull's No. 1 Clausen, 368 ft. from W line, 2,500 ft. from S line of tract, 12 miles N of San Antonio.	T.D. 1,810 ft.; standing.
LaSalle Oil Co.'s No. 1 City Sewage farm, 150 ft. S of Rilling Road, 450 ft. W of NE cor. of tract in D. Bustillos Sur.	T.D. 75 ft.; drlg.
C. J. LeCompte's No. 3 R. Diaz, 150 ft. from S and E lines of 30-ac. tract, Diaz farm lots, Nos. 1 and 3.	T.D. 1,450 ft.; no report.
C. J. LeCompte's No. 4 R. Diaz, 324 ft. NE of No. 1.	T.D. 830 ft.; S.D.
Motes-Campbell's No. 1 Pruitt, 550 ft. NE of Trussells' No. 1 Pruitt, 54 varas from E line of tract in Samuel McCullough Sur.	T.D. 1,065 ft.; S.D.
Motes-Campbell's No. 1 Stumberg, 990 ft. from N line, 450 ft. from W line of F. Rolen Sur. No. 48	T.D. 1,135 ft.; bailing and pumping.
Motes-Campbell's No. 2 Stumberg, 450 ft. from N line, 450 ft. from W line of S. Stumberg 140-ac. tract in F. Rolen Sur. No. 48	T.D. 510 ft.; drlg. shale.
George L. O'Neill's No. 1 Neimann in Juan Montes Sur. No. 6	T.D. 433 ft.; drlg.
Fred Perrenot's No. 1 Ruiz, SE cor. of 82-ac. tract in F. Rowland (Rolen) Sur. No. 48	T.D. 640 ft.; S.D. for repairs.
H. A. Pagenkopf's No. 1 G. A. Goeth, 500 ft. from SE line, 600 ft. from SW line which is San Antonio River, Juan Montes Sur.	T.D. 1,740 ft.; drlg. Taylor; showing gas.

(Continued on Page 64)

California Output Is Close to New Allocation; State Opens Suit on Tideland Production

By L. P. STOCKMAN
Staff Correspondent, California Fields

LOS ANGELES, Calif., Sept. 18.—Crude oil production in California closely approximated the allowable late this week and, to all intents and purposes, is down to the quota of 480,000 bbls. per day. Several fields are still producing in excess of the allowable, but most of this overage has been offset by substantial underages in other areas. The Long Beach Field is gradually reducing production to the allowable of 60,000 bbls. but is still producing approximately 8,000 bbls. per day above the objective. Santa Fe Springs, with a daily allowable of 46,700 bbls., is within striking distance of its objective, as production late in the week was gauged at a little in excess of 48,000 bbls. The Kettleman North Dome Field and the Ventura Avenue Field are within 1,000 bbls. of their allowables of 63,000 bbls. and 36,000 bbls. per day.



Several other areas are producing slightly in excess of the allowable, due in a large extent to the policy of operators in several settled fields to produce their respective monthly allowables during the first two or three weeks of each month and then shut down or pump only a few hours daily. Due to operating conditions, the Central Proration Committee will undoubtedly sanction this procedure. Production in the Huntington Beach Field has been drastically reduced during the past several days, showing only a slight overage. Richards & Rowan closed in their No. 2 Severns a few days ago as this well produced its total allowable for September during the first 13 days. Termo Corp. shut down one well a few days ago to permit completion of a second which the company expects to flow wide open for a short time to establish its potential.

State Files Suit

The State of California petitioned the Superior Court of Orange County to restrain operators in the Seventeenth Street town lot area of the Huntington Beach Field from producing oil and gas from beneath state tidelands and to order an accounting for the asserted drainage resulting from production activities. The state contends, in the suit filed at Santa Ana September 14, that the oil under the tidelands belongs to the state and is therefore being illegally produced. The suit, filed by L. G. Campbell, deputy state attorney general, and Webb Shadle of the division of state lands, asks for an order requiring the Termo Corp. to show cause September 22 why the state should not be allowed to make a survey of the company's well in the town lot area. Defendants include Termo Corp., Ltd., Pacific Electric Railway Co., City of Huntington Beach, Standard Oil Co. of California and several individuals. This litigation, although directed only against Termo Corp., is in reality the forerunner of additional suits in the event that the state is successful. The state alleges the Termo Corp.'s well passed through and under without consent the properties of Pacific Electric Railway Co., property of the Huntington Beach Co., acreage of the Standard Oil Co., which has wells and oil-bearing land near the beach, and through and under Ocean Avenue, which belongs to the municipality.

The Central Proration Committee, charged with allocating state production, has taken a definite stand with respect to drilling operations in new fields where there are less than 10 producing wells and deep zone exploitations in proven fields where there are less than 10 wells producing. The committee will not give any new field an allotment until a definite program is submitted and approved covering future development. This action will eliminate competitive drilling and overdevelopment of productive acreage.

The Central Proration Committee's decree applies specifically to drilling operations or projected development in the Montebello, Mountain View, Inglewood, Elwood, Kettleman Middle Dome, San Miguelito and the deep zone in the Mount Poso Field of Kern County.

Anticipating enforcement of this program, E. G. Starr, vice president of the Universal Consolidated Oil Co., which discovered the deep zone in the Montebello Field a few weeks ago, has requested all operators in that field to meet with him September 19 to work out a plan for orderly development for the sanction of the Central Proration Committee. Invitations have been directed to the Standard, Shell, Union, Texas, St. Helens Petroleum, W. T. McGinley and other interested operators. While waiting for operators to join in the program the Universal Consolidated is going ahead with plans for drilling two wells which will be carried to the lower horizon. The deep Cruz zone, discovered by the Universal Consolidated is expected to become of considerable importance from a refining standpoint, despite the fact that production will be curtailed, as this crude tests approximately 37.3 degrees A.P.I. and has a gasoline content approximating 45 per cent. When cracked the gasoline recovery is expected to approximate 65 per cent. Universal's discovery well is producing only a limited quantity of gas, but it is exceptionally rich as tests indicate a recovery of about 3½ gallons of natural gasoline for each 1,000 feet of gas treated.

Numerous Problems

The Central Proration Committee and the State Oil Umpire have encountered numerous problems in the application of the oil code. There are still a number of minor details awaiting final decision. Warner Clark, chairman of the subcommittee on proration procedure and representative of Montebello, West Coyote and Whittier Fields on the Central Committee; William Geis, representative of the Long Beach Field, and Robert E. Allen, assistant oil umpire, flew east to Washington early in the week to confer with Secretary Ickes. The California committee is expected to present for decision the advisability of permitting wells to produce wide open in water driven fields. This applies particularly to the old Kern River Field where operators are obliged to maintain pumping activities to prevent being flooded out. Wells in this field will undoubtedly be classified as strippers due to the small daily production and the fact that the water problem is a complicated one. The California committee will probably also present the Elwood situation as the operating companies are obliged to store more than a normal quantity of oil due to the irregularly of tanker movement.

Dominguez

Republic Petroleum Co. surprised the boys by completing a 1,406-bbl. well in the Dominguez Field early in the week when No. 4 Childs was finished at 4,481 feet. This is the second large well by Republic Petroleum in the Dominguez Field since the company acquired the Childs property about a year ago. In December, 1932, Republic Petroleum, directed by C. C. Spicer, president, finished No. 1 Childs flowing 767 bbls. of 29.2 gravity oil per day from 4,500 feet. This well, abandoned by another operator and acquired by Republic Petroleum, was completed by the application of careful engineering work.

Republic Petroleum's latest completion, No. 4 Childs, was bottomed at 4,481 feet and finished with a 7-inch liner including 157 feet of perforated and 4,455 feet of 2½-inch tubing. The well is flowing 1,360 bbls. of 29.5 gravity oil and 360,000 feet of gas per day through a five-eighths inch bean under a pressure of 640 pounds on the casing. Another well is expected to be finished in the Dominguez Field within a few days as Union Oil Co. has started swabbing operations on No. 31 Callender bottomed at 4,830 feet and finished with 6⅝-inch liner carrying 135 feet of perforated. In addition to swabbing this well, Union is rigging up rotary equipment in Nos. 32 and 33 on the Callender lease and is building a new rig for No. 24 Hellman. Shell is building rig for No. 48 Reyes and has just completed the cement foundations for No. 49 Reyes.

Richfield

Union Oil Co. is expected to finish No. 3 A.&P. as a commercial producer in the Richfield district during the week and will probably complete No. 5 T.&G. early in October. The company secured a water shutoff on the 6⅝-inch water string landed in No. 3 A.&P. at 3,652 feet and is in the pay at 3,718 feet. Associated has started work on No. 1-A Bayha, originally completed at 4,750 feet, and will attempt to develop commercial production in the Breen zone. The company has pulled 157 joints of 6⅝-inch and has dumped in 11 sacks of cement preparatory to a resumption of drilling. Crystal Gasoline Corp. recently cemented a string of 8⅝-inch in No. 3 at 3,765 feet and should begin drilling within a few days. Otis Hoyt is rigging up pumping equipment in No. 16 Richfield preparatory to putting it on the beam at 3,840 feet. St. Helens Petroleum is making good progress in No. 1 Brown, a recent spud in the Richfield district, as the bit has passed the 1,500-foot level.

In the Seventeenth Street town lot area of Huntington Beach Field, Richards & Rowan completed No. 2 Severns a few days ago flowing 2,305 bbls. of 26.1 gravity oil and 1,600,000 feet of gas from 4,760 feet, the hole having been finished with a 4¾-inch liner including 645 feet of perforated. Termo Corp.'s No. 4 fee, finished last week at 4,719 feet flowing 1,272 bbls. per day, has consistently built up during the week and latest production reports indicate it is flowing 2,941 bbls. of 27.9 gravity oil and 23,000,000 feet of gas. Several additional wells are nearing completion in the Seventeenth Street area and operators are still starting new wells despite the fact that the state has filed suit against the Termo Corp. to eliminate production from beneath state tidelands.

San Miguelito

Continental Oil Co. completed No. 1 Grubb, in the San Miguelito Field of Ventura County, flowing 1,540 bbls. of 30.1 gravity oil cutting 3 per cent from 7,926 feet. This well came in wet on a production test made about two weeks ago and the company was consequently obliged to recement through perforations at 7,298 feet. No. 2 Grubb is substantially lower on the structure than No. 1 Grubb, Continental's discovery well finished at 7,152 feet, and indicates the outer limits of production are not far distant. Continental does not expect to start another well in the San Miguelito Field until the end of the year as the company has 90 days in which to start work on another well. The abandonment of No. 1 Valenzuela of Honolulu Consolidated and the depth to which Continental was obliged to drill before completing No. 2 Grubb, practically precludes any further development on the Valenzuela lease unless drilling opens up a new deep zone. No. 2 Grubb of Continental failed to encounter the upper Grubb zone while No. 1 Valenzuela of Honlulu missed both zones entirely. Chanslor-Canfield Midway Oil Co. has

TANKER SHIPMENTS FROM LOS ANGELES TO DOMESTIC AND FOREIGN PORTS

	Sept. 2		Aug. 26			
Intercoastal-domestic—	Total this week	Daily average	Total last week	Daily average	This year to date	Same time last year
Fuel oil	.....	.....	63,953	9,137	869,619	.....
Diesel and gas oil	.....	.....	.....	.....	1,200,559	634,120
Gasoline	.....	.....	363,644	52,663	6,954,933	5,576,457
Kerosene	.....	.....	.....	.....	508,895	154,372
Foreign exports—						
Crude oil	347,345	49,621	383,180	54,740	5,337,020	5,724,219
Fuel oil	178,236	25,462	352,183	50,319	5,727,274	5,904,572
Diesel and gas oil	63,475	9,068	.....	.....	2,286,023	1,666,277
Gasoline	51,975	7,425	263,618	37,660	4,191,378	5,916,705
Kerosene	33,995	4,856	174,928	24,990	1,392,367	1,884,205
Naphtha distillates	.....	.....	.....	.....	.....	120,075
Coastwise-domestic—						
Crude oil	.....	.....	74,625	10,661	5,172,364	9,930,506
Fuel oil	134,547	19,221	210,963	30,138	6,718,421	8,200,031
Diesel and gas oil	29,487	4,212	.....	.....	850,632	854,637
Gasoline	445,263	63,609	184,071	26,296	8,742,868	10,588,646
Kerosene	12,660	1,809	.....	.....	143,597	117,494
Naphtha distillates	.....	.....	.....	.....	37,661	.....

TANKER SHIPMENTS FROM SAN FRANCISCO TO DOMESTIC AND FOREIGN PORTS

Intercoastal-domestic—						
Diesel and gas oil	.....	.....	.....	.....	280,531	403,361
Gasoline	.....	.....	.....	.....	702,977	578,391
Kerosene	.....	.....	.....	.....	482,430	75,760
Lubricants	.....	.....	.....	.....	24,366	23,829
Foreign exports—						
Crude oil	.....	.....	73,191	10,456	1,320,041	707,651
Fuel oil	146,500	20,929	102,504	14,643	886,049	644,719
Diesel and gas oil	.....	.....	59,386	8,484	824,450	519,332
Gasoline	23,550	3,364	58,569	8,410	2,914,347	2,542,313
Kerosene	53,234	7,605	.....	.....	632,112	757,550
Lubricants	4,525	646	19,998	2,857	81,428	30,094
Coastwise-domestic—						
Fuel oil	229,222	32,747	13,119	1,874	2,488,512	2,054,637
Diesel and gas oil	.....	.....	.....	.....	179,250	312,562
Gasoline	71,775	10,254	80,405	11,486	2,826,321	2,575,422
Kerosene	.....	.....	.....	.....	85,106	80,467
Lubricants	.....	.....	.....	.....	2,751	.....

not yet made any definite decision with respect to the advisability of resuming drilling operations in No. 3-A Hobson, which was suspended a few months ago at 4,167 feet.

Rosecrans

In the Rosecrans district the Barnsdall Oil Co. has recompleted No. 1 Trust doing 300 bbls. of 40.1 gravity oil cutting 6 per cent from 6,693 feet, the hole having been plugged back from 6,729 feet. Myrwane Petroleum Co. has staked location for No. 1 Bradford, in the Rosecrans Field, but it will probably be two weeks before work gets under way.

It has been several years since any number of new wells have been started in the Santa Fe Springs Field as practically all of the available locations were drilled up during the deep zone exploitation program a few years ago. The starting of No. 16 Farwell of Union Oil Co. and No. 28 Slusher of Shell Oil Co. and the resumption of drilling operations on General Petroleum Corp.'s No. 231 Santa Fe at 4,275 feet, is of more than passing interest. Union Oil Co. expects to complete No. 4 Vidor in the Playa Del Rey Field within two weeks as the bit was rotating a few days ago at 5,670 feet. M .K. Nance did not quite complete rig construction for No. 1 Lewis, a projected deep test in the Montebello Field, owing to litigation on title.

Elwood

Barnsdall and Rio Grande, jointly developing several properties in the Elwood Field and codiscoverers of this field, completed No. 9-A on state tideland permit No. 88 as a commercial producer in the Vaqueros at 3,214 feet. This new well, bottomed at 3,372 feet but plugged back to 3,214 feet because of a gray sand, was finished with a 6⅝-inch perforated liner and brought in on a compressor doing 510 bbls. of 35.8 gravity oil per day. Operators in the Elwood Field, following the expiration of the gentlemen's agreement to refrain from deep zone exploitation, started deep exploration work a few weeks ago but will probably be retarded due to the demand of the Central Proration Committee that operators formulate a definite development program before the committee will permit production activities in the lower, or Sespe, zone. Pacific Western Oil Co. is extending its pier on tideland permit No. 92 preparatory to starting work on No. 1, a projected Sespe completion, but like other projected deep tests in the Elwood Field, it cannot be produced until the Central Proration Committee ratifies the development program. This well can of course be drilled and completed in the Sespe but cannot be produced pending final ratification of the program. Honolulu Consolidated has already started making hole in No. 6 on tideland permit No. 90, a projected Sespe zone completion, but like other operators in the Elwood Field, must conform to requirements of the Central Proration Committee.

In the Santa Maria district of Santa Barbara County, Union Oil Co. has recompleted No. 5 California Coast. This well, after being cleaned out and deepened, was returned to production pumping 170 bbls. of 21.5 gravity oil per day. In the Santa Barbara Mesa Field, Fred Garliep has spudded in his No. 1 and Daniel Fisher is rigging up rotary equipment preparatory to starting drilling operations on No. 1 Mesa, on Lot 11 in the Vista Del Oceano tract. Standard effected a water shutoff on the 8⅝-inch water string landed and cemented in No. 1 Chase & Bryce, a wildcat in the Goleta gas field at 4,056 feet, and has started drilling.

In the Ventura Avenue Field, General Petroleum has started preparations to conduct a production test on No. 15-A Barnard, which came in wet a few weeks ago from 9,000 feet. The company has pumped in 40 sacks of cement and will make a production test from approximately 8,863 feet. Associated Oil Co. is preparing to start drilling on Nos. 22 and 27 on the V.L.&W. lease in this field. Shell is also expected to begin drilling operations in two new wells in the Ventura Avenue Field, as rotary drilling equipment is being rigged up in Nos. 78 and 79 on the Taylor lease.

Mountain View

Shell Oil Co. is expected to complete No. 2 Porter Day, an offset to Hogan Petroleum Co.'s No. 1 Wharton in the Mountain View Field of Kern County, within 15 days. Shell secured a water shutoff in No. 2 Porter Day at 5,781 feet and is drilling below 5,800 feet. Bankline Oil Co., drilling a test on the Symons property in Section 4-31-29, has not yet picked up the oil sand down to 5,600 feet, but still has a chance of developing commercial production. Barnsdall has not yet made enough hole to pick up the production formation in the Mountain View Field and its No. 1 Mott showed no change in status. Drilling during the next 10 days should establish production possibilities. Mohawk Oil Co. has logged streaks of gray sand and oil sand in No. 2 Hood at 4,980 feet.

Union Oil Co. has started rig construction for No. 1 K.C.L., a wildcat in the Union Avenue district of Kern County. This test is one of the most important wildcats to be started in the San Joaquin Basin during the year as the acreage is in a logical productive interval. Union's new wildcat is approximately midway between the Fruitvale Field and the Mountain View Field and not far removed from the several tests drilled by Western Gulf a few years ago. In addition to Union Oil C.'s test, Alta Oil Corp. is rigging up rotary equipment on a wildcat in Section 6-30-28. Alta Oil Corp.'s test is west of Western Gulf's dusters in the Union Avenue district, while Union Oil Co.'s wildcat is in Section 15-30-28, a little east of the Western Gulf's operations.

Kettleman Hills

North Kettleman Oil & Gas Co. has just resumed operations on No. 1 Lillis-Welsh, deep test in the Kettleman North Dome Field. This well has been standing idle for some time due to mechanical trouble while the company was coring at 10,944 feet. Union Oil Co. has advanced sufficient finances to Ed McAdams to permit the resumption of drilling and possible completion and in return has received an assignment covering a 50 per cent interest in the lease. The development of deep production would be especially advantageous to Union Oil Co. as it holds leases on several hundred acres between this well and the present outer limits of production in the Kettleman North Dome Field. Several new wells are being started in the Kettleman North Dome Field, not, however, eligible for completion until early in the coming year.

General Petroleum is in an extremely hard brown shale in No. 1 Berry, a deep test in the South Belridge Field of Kern County. The formation at 8,476 feet is so hard the company is able to make only a few feet each tour. In the North Belridge Field of Kern County, Belridge Oil Co. is at 4,590 feet in No. 48-27, scheduled for completion in the Eocene, but the company does not expect to produce it until the deep zone is opened. Ohio Oil Co. has started rig construction for its new wildcat in the Buena Vista Lake district of Kern County and rotary equipment is to be installed within 10 days.

Mount Poso

The Mount Poso Field of Kern County has shown a revival of drilling since ratification of the code, and additional drilling is expected. It is probable two new wells will be finished in Mount Poso before the close of the month as Bern Oil Co. and Ekoh Oil Co. are in the pay in their respective wells at present. Himavitz Oil Co. and E. A. Bergere are slightly below 1,400 feet and may pick up the pay within 10 days. General Petroleum spudded in No. 1 Glide a few days ago and has started rig construction for No. 47 Heisen, in Section 16-27-28. Goldman & Hoisington have material on ground for a new well on the Grimes lease in Section 32-27-27 and California Western Oil Co. has staked location for No. 2 in Section 23-27-27. In the Round Mountain district, Golden Bear Oil Co. is rigging up pumping equipment preparatory to finishing No. 1 Rex on the beam at 1,697 feet. Round Mountain Oil Co. is cleaning out No. 1 Jewett at 1,926 feet preparatory to conducting an early production test.

Strong Personnel Formed by Well-Treating Company

The Williams Bros. Well-Treating Corp., Tulsa, organized early this year to treat oil and gas wells with acid, has developed a strong personnel for the efficient handling of this class of work. Considering each well as a separate problem, the company has established a system for the diagnosis of conditions in each well which it undertakes to treat. It has been doing work in Oklahoma, Kansas and the Texas Panhandle. Interest has been aroused by a blanket developed by the company for use in its operations.

S. M. Williams, Jr., is president of the organization; G. A. Peterkin, vice president; Harry F. Wright, geologist and petroleum engineer; Roy L. Ginter, consulting chemist, and A. T. Wright, field representative.

Harry F. Wright is familiar with lime-producing horizons in Oklahoma, Kansas and Texas and has spent years gathering information of high value in diagnosing conditions of wells. Mr. Ginter is well known by the oil industry, and his chemical analyses supplement the geological and practical phases of the company's work. A. T. Wright spent much time in Michigan when acid treatment began on a commercial scale. Last January he supervised the treating of some of the first wells treated in Oklahoma. These wells are producing from a lime formation in the Drumright district.

IMPORTANT SOUTHERN CALIFORNIA WILDCATS

Company, well and location—	S.T.R.	Depth	Status:
Palm Ridge Oil Co., No. 1 Palms, Los Angeles Co.	2- 2-15	7,020	sd. sh. drilling
Pacific Gulf, No. 1 Athens, Los Angeles Co.	19- 3-13	6,094	suspended
Pacific Dev. Co., No. 1 Wilmington, Los Angeles Co.	16- 3-13	rig	rigged up
Pacific Oil Inv. Co., No. 1 Wilmington, Los Angeles Co.	28- 4-13	3,640	cleaning out
Sunrise Pet. Co., No. 1 Domingues, Los Angeles Co.	3- 4-13	4,980	hd. sd. drilling
Oakes & Mead, No. 1 Lyndwood, Los Angeles Co.	31- 2-12	4,940	cleaning out
Celito Oil Co., No. 1 Monterey Park, Los Angeles Co.	25- 1-12	5,319	suspended
Community Oil Co., No. 1 Montebello, Los Angeles Co.	34- 1-11	5,351	repair rig
Universal Consd., No. 2 Montebello, Los Angeles Co.	5- 2-11	mtl.	building rig
Universal Consd., No. 3 Montebello, Los Angeles Co.	5- 2-11	....	material
Nance, M. K., No. 1 Montebello, Los Angeles Co.	6- 2-11	rig	suspended
Andrus & Hutcheson, No. 1 El Monte, Los Angeles Co.	11- 1-11	1,792	suspended
Signal Pet., No. 1 Puente, Los Angeles Co.	14- 2-10	4,908	plugging back
Willetts Pet., No. 1 Saugus, Los Angeles Co.	35- 5-16	2,074	suspended
Alpha Oil Co., No. 1 Calabasas, Los Angeles Co.	22- 1-15	1,263	hd. sd. drilling
Ball, W. T., No. 1 Newhall, Los Angeles Co.	34- 3-15	3,582	suspended
Big Four Oil Co., No. 1 Newhall, Los Angeles Co.	32- 4-16	2,230	suspended
Marble, Willard, No. 1 Van Nuys, Los Angeles Co.	6- 2-16	2,701	sd. sh. drilling
Plymouth Oil Co., No. 1 West Coyote, Los Angeles Co.	24- 3-11	3,312	conglom. drlg.
Vaqueros Major Oil Co., No. 1 Huntington, Orange Co.	tideland	mtl.	building pier
Nuoll Co., No. 1 Newport, Orange Co.	29- 6-10	4,289	hd. sd. drilling
Mineral Exploration, No. 1 Capistrano, Orange Co.	8- 8- 7	4,302	suspended
Saddleback Oil Co., No. 1 El Tora, Orange Co.	3- 6- 7	80	suspended
Placentia Dev. Co., No. 1 Placentia, Orange Co.	31- 3- 9	706	cemented
Brown, W. F., No. 1 Atwood, Orange Co.	26- 3- 9	rig	rigged up
Spindle Top Oil Co., No. 1 Salton Sea, Riverside Co.	25- 7-10	3,590	cleaning out
Great American Pet., No. 1 Chino, San Bernardino Co.	18- 2- 8	2,660	hd. sd. drilling
Great American Pet., No. 2 Chino, San Bernardino Co.	18- 2- 8	1,270	reaming
McCarthy, C. F., No. 1 Chino, San Bernardino Co.	14- 3- 8	303	sd. sh. drilling

IMPORTANT NORTHERN CALIFORNIA WILDCATS

Company, well and location—	S.T.R.	Depth	Status:
Standard Oil Co., No. 1 Goleta, Santa Barbara Co.	28- 4-28	4,350	hd. sd. drilling
Monterey Expl., No. 1 Point Concepcion, Santa Barbara.	33- 5-33	2,714	hd. sh. drilling
Bolsa Chica, No. 1 Coal Oil Point, Santa Barbara Co.	tideland	4,089	suspended
Meganos Oil Co., No. 1 Purisima, Santa Barbara Co.	28- 8-34	1,471	sd. sh. drilling
Cuyama Oil Co., No. 1 Cuyama, Santa Barbara Co.	12-10-27	2,387	suspended
Woodrow Pet., No. 1 Rincon, Ventura Co.	4- 3-24	7,530	br. sh. drilling
Bardeen Pet., No. 1 Fillmore, Ventura Co.	13- 4-19	3,230	O.S. drilling
Hancock Oil Co., No. 1 Fillmore, Ventura Co.	13- 4-19	2,373	cemented
Oil Ridge Oil Co., No. 1 Fillmore, Ventura Co.	1- 4-19	....	road
Los Cerritos Pet., No. 1 South Mountain, Ventura Co.	17- 3-20	rig	rigging up
Kneiper & Atha, No. 1 Bardsdale, Ventura Co.	7- 3-19	722	gr. sd. drilling
Williamson & Donaher, No. 1 Simi, Ventura Co.	36- 3-18	733	sd. sh. drilling
Dabney, H. R., No. 1 Simi, Ventura Co.	22- 3-18	1,000	suspended
Continental, No. 2 Miguelito, Ventura Co.	23- 3-24	7,926	1,500 B/D
C. C. M. O., No. 3-A Miguelito, Ventura Co.	23- 3-24	4,166	suspended
Midlands Pet., No. 1 Ojai, Ventura Co.	9- 3-23	7,841	recrilling
Wilshire Oil Co., No. 1 Sulphur Mountain, Ventura Co.	20- 4-21	2,198	suspended
Kirk, W. A., No. 1 Sulphur Mountain, Ventura Co.	21- 4-21	397	hd. sd. drilling
Mosher, J. W., No. 1 Santa Paula, Ventura Co.	22- 4-21	1,631	br. sh. drilling
Las Posas Pet., No. 1 Las Posas, Ventura Co.	22- 3-20	5,000	suspended
International Oil Developers, No. 1 Conejo, Ventura Co.	33- 2-20	2,810	hd. sd. drilling
Hub Pet. Co., No. 1 Gould Hills, Kern Co.	22-29-21	6,840	suspended
Purman, T. H., No. 2 Gould Hills, Kern Co.	27-29-21	335	suspended
Casa Mira Oil Co., No. 1 Belridge, Kern Co.	29-28-20	4,451	land 8-5/-inch
General Pet., No. 1 Belridge, Kern Co.	30-28-21	8,476	br. sh. drilling
Cumberland Oil Co., No. 2 Devils Den, Kern Co.	17-26-18	3,270	suspended
Lincoln Pet., No. 1 Devils Den, Kern Co.	19-25-18	2,172	suspended
Hanna, Tom, No. 1 Devils Den, Kern Co.	25-25-18	3,516	suspended
Pyramid Hills Oil Co., No. 1 Devils Den, Kern Co.	24-25-18	4,140	fish D/P
Fowler, F., No. 1 Blackwell Corner, Kern Co.	15-26-19	3,170	suspended
Associated, No. 1 Lost Hills, Kern Co.	2-26-20	5,780	gr. sh. drilling
Howells Bros., No. 1 Round Mountain, Kern Co.	32-28-29	1,140	hd. sh. drilling
Keno Pet. Co., No. 1 Lerdo, Kern Co.	14-29-27	4,531	suspended
Ohio Oil Co., No. 1 Buena Vista Lake, Kern Co.	31-31-26	mtl.	building rig
Caravel Pet. Co., No. 1 Edison, Kern Co.	19-30-30	1,301	suspended
Union Oil Co., No. 1 Union Avenue, Kern Co.	15-30-28	mtl.	building rig
Alta Oil Co., No. 1 Union Avenue, Kern Co.	6-30-28	rig	rigging up
Shell Oil Co., No. 2 Mountain View, Kern Co.	29-30-29	5,788	cemented
Hogan Pet. Co., No. 2 Mountain View, Kern Co.	29-30-29	3,177	sd. sh. drilling
Bankline Oil Co., No. 1 Mountain View, Kern Co.	4-31-29	5,560	sd. sh. drilling
Barnsdall Oil Co., No. 1 Mountain View, Kern Co.	31-30-29	5,602	hd. sh. drilling
Long Beach Pet., No. 1 Mountain View, Kern Co.	29-30-29	4,740	sd. sh. drilling
Mohawk Pet., No. 1 Mountain View, Kern Co.	30-30-29	5,958	suspended
Mohawk Pet., No. 2 Mountain View, Kern Co.	30-30-29	5,114	sd. sh. drilling
Mohawk Pet., No. 3 Mountain View, Kern Co.	30-30-29	rig	rigging up
Comanche Oil Co., No. 1 Comanche, Kern Co.	15-32-29	rig	suspended
Badger Oil Co., No. 1 Wheeler Ridge, Kern Co.	31-11-19	4,483	suspended
Gatton & Luethe, No. 1 Madera, Madera Co.	32-10-17	2,390	suspended
Russ Oil Synd., No. 1 Kingsburg, Fresno Co.	20-12-11	2,709	cemented
Bergman, Harry, No. 1 Kingsburg, Fresno Co.	12-12-11	4,159	suspended
Graham & Loftus, No. 1 Raisin City, Fresno Co.	20-15-15	5,908	suspended
Emerich Oil Co., No. 1 Mendota, Fresno Co.	35-13-13	3,820	suspended
Western Gulf, No. 1 S. P., Fresno Co.	3-17-15	5,408	sd. sh. drilling
Schmeiser, R. F., well No. 1, Fresno Co.	36-16-14	....	material
Hogan, Dana, No. 1 Joaquin Ridge, Fresno Co.	28-20-16	6,605	suspended
Superior Oil Co., No. 1 Jacalitos, Fresno Co.	6-22-16	4,306	sd. sh. drilling
Kent & McDonald, No. 1 Carrizo Plains, San Luis Obispo.	3-32-22	3,830	suspended
Paso Robles Oil Co., No. 1 Edna, San Luis Obispo Co.	27-27-11	4,191	suspended
Guesa, E. B., No. 1 Corcoran, Kings Co.	7-21-21	6,797	suspended
Brown, A. M., well No. 3, Kings Co.	10-23-19	1,205	cleaning out
Knudsen & Schmidt, No. 1 Reef Ridge, Kings Co.	36-23-17	6,873	suspended
Magee & Stone, No. 2 Aipaugh, Kings Co.	33-21-23	3,149	plug 2,710
Cardinal Oil Co., No. 1 Los Banos, Merced Co.	26-10- 9	rig	rigged up
Merced O. & G., No. 1 Chowchilla, Merced Co.	2- 9-16	rig	suspended
Na-Pa Oil Co., No. 1 Griffith, Napa Co.	7- 8- 3	3,750	br. sh. drilling
Oakdale Oil Co., No. 1 Oakdale, Stanislaus Co.	5- 2-10	4,815	redrilling
Pacific Northern Oil Co., No. 1 Guinda, Yolo Co.	23-12- 3	5,201	gr. sd. drilling
Buttes Oilfields Co., No. 1 Marysville, Sutter Co.	35-16- 1	2,721	gas—shut in
Buttes Oilfields Co., No. 2 Marysville, Sutter Co.	34-16- 1	3,701	sd. sh. drilling
Tehama Pet. Co., well No. 1, Glenn Co.	4-22- 5	4,696	cemented
Orland Synd., No. 1 Orland, Tehama Co.	31-23- 3	3,748	suspended

Seven Wells Completed in Michigan Districts; State's Potential Estimated 44,000 Barrels

By PAUL A. ELLIOTT
Staff Correspondent, Michigan Fields

MUSKEGON, Mich., Sept. 18.—Michigan's potential open flow capacity set a new high record of 44,000 bbls. during the week under figures computed by the new proration committee named by the Michigan Oil and Gas Producers Association.

Actual production was held to about 31,000 bbls., or within 1,000 of the new Michigan allowable of 30,000 bbls. by 60 per cent proration of the output of the Porter Pool gauged at 32,000 bbls. a day.

In addition to the 19,000 bbls. produced in Porter Township, 11,000 bbls. is the estimated daily output of other Central Michigan pools with 1,000 bbls. from Muskegon, Oceana, Saginaw and Ogemaw County wells.

Michigan production for August set a new all-time record at 765,550 bbls. compared with 744,000 bbls. in October, 1932. The August average was 25,518 bbls. daily although it would have exceeded this considerably had the Porter Pool not been under proration.

Michigan production to September 1 now aggregates 4,126,200 bbls. compared to 6,800,000 bbls. for 1932, the difference being due to comparatively low production of the first three months of 1933 when daily flow was but 14,000 bbls. This was before heavy flush production developed in Porter Township.

The new planning and co-ordinating committee of the Oil and Gas Producers Association will seek an increase in Michigan's allowable based on market demands of the territory now being served only partially with Michigan crude. Present proration in Porter Township was placed in effect principally because of inadequate pipe line facilities which will be increased by purchasers as their markets expand.

Seven Wells Completed

About 1,400 bbls. of new production was added during the week by the completion of seven new wells ranging from 15 to 450 bbls. initial. Six of these wells are located in the Mount Pleasant area, three in Porter Township and three in Greendale Township. The seventh is a new producer in the Oceana Field. More than 1,000 bbls. of increased production also was added this week by acid treatment in the Mount Pleasant area.

McClanahan Oil Co.'s No. 1 A. F. and C. M. Breu well, NE SE NE Section 20-13n-1w, Porter Township, Midland County, was the largest new well with an initial of 450 bbls. a day from the Dundee pay sands hit at 3,415 feet. This is the first completion in Section 20 and a considerable extension south and west. It is 1½ miles west of No. 2 Otway, discovery in Section 22, a mile south of producers in Section 17 and three-fourths mile west of production in Section 21.

Strange and Fortney's No. 3 J. W. Campbell, NW NW SE Section 18, Porter Township, made 400 bbls. initial after being drilled to 3,425 feet. It will be treated with acid, which increased No. 1 Campbell from 200 to more than 2,000 bbls. a day.

Gordon Oil Co.'s No. 3 Muscott, SW NE NE Section 17, Porter Township, made about 100 bbls. and also will be treated.

Pure Oil Co.'s No. 1 John Miller, NW SW Section 17, brought in with an initial flow of about 400 bbls., was increased to more than 1,000 bbls. with treatment. Pure's No. 1 Charles Hill, SW SW NW Section 17, also completed with about 150 bbls. initial, also will be treated.

William I. Wilson's No. 1 G. R. Hathaway, SE NE NW Section 18, Porter Township, another recent small completion at 100 bbls. initial, was boosted to about 500 bbls. with treatment.

J. Mark Harvey's No. 1 Breckenridge State Bank, SE SW SE Section 8, made one 20-bbl. flow and is estimated to be good for about 50 bbls. a day on the pump after being plugged back since water was struck recently at 38 feet in the Dundee.

George W. Giffert's No. 1 Paul D. Wampler, SW NW SW Section 9-14n-2w, Greendale Township, Midland County, made about 250 bbls. initial as an east offset to Theodore Oil Co.'s No. 1 Steed.

Pure Oil Co.'s No. 9 Mullett in Section 15, Greendale Township, was brought in with a light flow of about 15 bbls. a day and will be treated.

W. L. McClanahan's No. 2 C. Schaffer, NW NW SW Section 9, Greendale Township, is making about 70 bbls., initial before treatment.

Oceana Field

Oil and gas were encountered in James Flanagan's No. 3 E. Mitchell well, SE SE Section 36-15n-17w, Hart Township, Oceana County, before casing had been set when the top of the upper Traverse limestone was struck unexpectedly high. It will be drilled deeper with indications it will be the fifth commercial producer in the new field.

H. C. Nelson's No. 1 A. Doolittle, NE SE Section 36, Hart Township, is expected to settle down to daily production ranging between 300 and 500 bbls. after making 75 bbls. an hour following treatment.

Mr. Flanagan is driving pipe on two new Mitchell wells, Nos. 4 and 5, on the north edge of the 60-acre lease. No. 1 Mitchell made 7,000 bbls. in August and is now doing about 200 bbls. a day after an initial of more than 50 bbls. an hour after several acid treatments six weeks ago.

C. B. Jetter, of the Jetter Oil Co., Muskegon, is moving in for a new well on the Delbert Swinton No. 1, N half SW Section 11-14n-16w, Shelby Township, about 2 miles southwest of the nearest producer. H. C. Nelson also has announced that he will drill on the Anna Copenhaven lease just north of his No. 1 A. Doolittle.

Muskegon

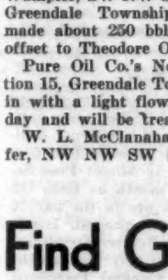
Muskegon Oil Corp. has moved in a rig and will start drilling next week on its seventh structure test in a program

(Continued on Page 58)

Find Good Wells in Wyandot County, O.; Stark County Now Has 33 Operations

By GEORGE A. WHITNEY
Staff Correspondent, Central West Fields

FINDLAY, Ohio, Sept. 16.—The Central West Field is doing its share in development work and getting fairly good results in the Lima and Central Ohio Fields, and drillers and tool-dressers are once more in a happy mood. More men are finding work than at any time during the past two years. In the Lima Field, Wyandot County still stands out as the most active. In this county, Upper Sandusky Oil & Gas Co. drilled in No. 5 on the Oscar J. Weiker farm, Section 28, Crane Township, which produced 300 bbls. initial along with 1,500,000 feet of gas at 1,318-67 feet. Pitt Oil & Gas Co.'s test on the Joseph T. Brown farm, Section 33, same township, produced an initial of 75 bbls. from the Trenton Lime at 1,363-84 feet. Same company is drilling No. 1 on the A. & E. Myers farm, Section 3, same township. Saladay and others drilled in a light gas well on the Mary Huffman, Section 33, same township, at 1,339-65 feet, and will give it a shot in hope of oil. Keiner and others drilled in a light gas well in No. 4 on the Louis Brandt farm, Section 34, same township, at 1,346-67 feet. Lang and others' No. 1 on the A. G. Smith farm, Section 9, same township, at 1,440-90 feet, failed to show oil or gas, and is a dry hole. Crane Township Oil & Gas Co. is drilling No. 2 on the Delbert Smith farm, Section 33, same township, and Cobb & Ringle is drilling on the E. R. Kuenzli farm, Section 35. Strauss and others have a rig on the Fred Moser farm, Section 7, same township.



W. J. Dempsey of Lakewood, Cuyahoga County, an oldtime operator who has been in the producing game for 38 years, is doing some development work in Wyandot County. He is reported drilling below 900 feet on the S. P. Hooper farm of 208 acres, in Section 6, Crane Township, and if commercial production is found it will mean the drilling of a number of wells.

Bell and Leapper are drilling on the George Baker farm, in Troy Township, Wood County.

CENTRAL OHIO

In the Central Ohio Field nine completions were reported, five of which were oil producers with an initial of 112 bbls., three gas wells and one dry hole. The best oil producers were in Coshocton County. Hulse-Kuntz, Inc.'s No. 2 on the Rolla McKee farm, Section 17, Perry Township, produced an initial of 50 bbls. from the Clinton Lime formation from 3,060 to 3,112 feet, and in Clark Township, same County, Ohio Oil Co.'s No. 5 on the Rhody heirs farm, Section 8, is credited with an initial of 50 bbls. from a total depth of 3,450 feet.

In Ashland County, Moore and others' No. 6 on the George W. Black farm, Section 34, Mohican Township, found oil in the Berea sand from 797 to 822 feet, and produced 2 bbls. initial.

In Lorain County the Ohio Fuel Gas Co.'s No. 1-5,746, on the D. W. Rosencranz farm, Section 21, Carlisle Township, came in a dry hole. Same company is drilling No. 1-5,743 on the Jacob Ligas farm, in Lot 96, Eaton Township, same county, and McMillan and others have a rig up for No. 4 on the Frank Kovarik farm, Lot 95, same township. Wittmer Oil & Gas Co. is drilling on the Cleveland Quarries property, Lot 19, Lagrange Township, same county. McMillan and others are shut down at 400 feet on the Frank Harrison farm, Lot 6, Carlisle Township, same county.

In Medina County, Oko Oil & Gas Co.'s No. 1 on the Sanford-Watson farm, Lot 3, Chatham Township, produced 5 bbls. from the Berea sand.

In Fairfield County, City Natural Gas Works is drilling No. 5 on the Cyrus B. Ricketts farm, Section 12, Berne Township, also No. 3 on the Lewis Krile farm, Section 3, same township. Same company has a rig in on the James Keister farm, Section 8, Pleasants Township, same county.

In Knox County, Ohio Fuel Gas Co.'s No. 1-5,736 on the Ambrose C. Briggs farm, Section 4, Union Township, is reported good for 5 bbls. at 2,828 feet.

In Licking County, Wehrle Gas Co. is drilling No. 2 on the O. E. Kreager farm, Lot 10, Franklin Township. Emerald Petroleum Co. made a location for No. 2 on the Calvin Mossholder farm, Section 14, Fallsburg Township.

In Tuscarawas County, Frey and others drilled in a gas well on the H. B. Gobart farm, Section 7, Fairfield Township, at 4,985 feet.

In Belmont County, Ohio Fuel Gas Co.'s (Clymer) No. 1 on the J. H. Lynn farm, Section 21, Union Township, is a gas well at 1,081 feet. Robert Morgan and others are shut down at 1,065 feet in No. 7 on the William Shepherd farm, same section. R. W. Dunnett and others are drilling No. 1 on the Anna L. Merritt farm, Section 16, same township. In Goshen Township, Morgan & Peters are drilling on the J. and A. Telches farm, Section 29.

Stark County

In Stark County, the most active development county in the field, with 33 wells drilling or rigs up, but one completion was reported for the week, Ohio Fuel Gas Co.'s No. 1 on the Jay P. Festerly farm, in Section 18, Plain Township, which is a gas well at 4,422-40 feet. Brendel Producing Co. has 13 wells under way in this county at various depths. It is drilling No. 1 on the Joseph H. McDowell farm, Section 16, Plain Township, below 4,100 feet; No. 1 A. and L. Stephens farm, Section 9, 4,300 feet; No. 1 on the V. L. Ney farm, Section 10, 4,000 feet; No. 1 Lillian Shoemaker farm, 2,700 feet; No. 1 on the L. and E. Fritz farm, Section 10, 2,800 feet; No. 1 on the Peter C. Graber farm, Section 12, 2,300 feet, all in Plain Township. In Lake Township, it is drilling below 3,950 feet in No. 1 on the D. Schlabach farm, in Section 25. It is building a rig for

No. 2 on the Henry Huthmacher farm, Section 11, Jackson Township, Stark County, spudding No. 1 on the H. L. Shriver farm, Section 10, and rigging up for No. 1 on the Cora L. Clay farm, 10, same township. White and others are drilling below 4,300 feet on the Forest Hill Cemetery, in Section 26, Plain Township, and are shut down at 4,060 feet on the Jacob Isler farm, Section 25, Perry Township, same county. Stoltz and others are driling below 4,250 feet on the Lynhurst Addition, Section 17, Plain Township. East Ohio Gas Co. is drilling below 4,300 feet in No. 1 on the Stewart Bixler farm, Section 9, Plain Township, Stark County. Same company's No. 1 on the J. E. Wertz farm, Section 31, Green Township, Summitt County, is drilling below 3,000 feet.

In Trumbull County, Johnson and others' test on the William H. Kain farm, Lot 59, Newton Township, does not look any too good. Stray sand was found from 4,475 to 4,490 feet; Red Rock 4,490-98 feet, show of gas; Clinton 4,498-4,528 feet, hard and dry. It may be drilled to Red Rock.

INDIANA

In Daviess County, Amsler and Gilmore are drilling on the Arthur B. Clark farm, in SW Section 9, Harrison Township. Ohio Oil Co. is drilling on the Henry F. Freund farm, in Section 6, Steele Township, C. H. Parrott is starting a test on the Edith White farm, in Section 28, Veale Township. Indiana Southwestern Gas Corp. is drilling No. 1 on the Mary L. Wallace farm, Section 31, Harrison Township.

In Gibson County, Knox Engineering Corp. is drilling No. 3 on the G. C. Sampley farm, in Section 23, Columbia Township, also No. 3 on the E. F. and L. W. Gudgell farm, SE Section 22, same township. Gib-Van Oil & Gas Co. is drilling No. 6 on the Agnes Haskins farm, SE Section 18. Big Four Oil & Gas Co. is drilling No. 2 on the Nora Hope farm, Section 19, same Township, and No. 2 on the Robert Huey farm, Section 18, the latter three wells being in Washington Township, same county.

In Pike County, Bell, Trusler and others' No. 5 on the Craig heirs farm, NW Section 20, Washington Township, is a gas well with around 500,000 feet. Dr. Chas. C. Taliaferro, Jr., is drilling on the Oma Bradfield farm, Section 7, same township. Harry Risher is drilling on the Ada Hale farm, Section 30, same township. In Jefferson Township, Indiana Southwestern Gas Corp. is drilling No. 1 on the O. L. Thomas farm, Section 15.

In Harrison County, Indiana Utilities Corp. is starting a test on the John W. Link farm, in Section 3, Harrison Township.

In Spencer County, Auburn Stinson is drilling below 400 feet on the Edward Lorch farm, in Huff Township.

In Randolph County, Henderson Bros. abandoned their No. 1 on the Alwilda Smiley farm, in Section 4, Jackson Township, at a total depth of 1,200 feet.

In Huntington County Fred Brandt is drilling No. 1 on the Julius Werling farm, Section 27, Huntington Township.

Perry County

In Perry County, Moorehead & Gard's No. 1 on the Joseph H. Cook farm, in Section 16, Tobin Township, and found a 2-bbl. pumper at a depth of 138 feet. There also was a fair showing of gas. No. 2 is starting on the same lease. Charles Hyle is down below 460 feet on the Brunner farm, in Anderson Township. Conyers & Bugg's No. 3 on the Henry Delaisse farm, in Section 25, Clark Township, is a 5-bbl. pumper. In the same township, Dr. Charles C. Taliaferro, Jr., is below 400 feet on the Gus Goffinet farm, in Section 11, Anderson Township. N. N. Smith completed a 10-bbl. well on the J. Leclire farm, in Section 30, Clark Township, and started No. 2 on the same farm. C. Splater heirs farm, drilled by Porter and others in Section 32, Anderson Township, is shut down. Obert Oil Co. is drilling on the Frank B. Kelly farm, in Section 26, Oil Township.

In Vanderburg County, Foreman & Miller brought in an excellent well, a wildcat on the J. W. Biltman heirs farm, in Section 20, Center Township, estimated with an initial around 40 bbls., and two additional wells are starting, one on the David J. Stock farm, in Section 28, and No. 1 on the David J. Stock farm, same section. Mann & Huber are starting No. 1 on the Philip Neidhammer farm, Section 28, same township. Knapp and Woods found a gas well in No. 2 on the Southern Indiana Gas & Electric Co. right-of-way, NE Section 33, Center Township. Same parties are starting No. 2 on the Gas & Electric property. P. E. Tichenour is drilling on his own lot in Section 17, Scott Township, same county. Unknown parties are drilling on the Christine R. Riggs farm, in Section 16, Perry Township, same county.

KENTUCKY

Only two completions were reported in the Kentucky area, both in Muhlenberg County in what is known as the Greenville Field. H. K. Oil & Gas Co.'s No. 1, on the Jack Ebling farm, near the town of Weir, is credited with an initial of 75 bbls., and Ellis & Young's No. 1 on the A. W. Walker farm, near Weir, same county, was dry at a total depth of 1,764 feet, but was plugged back to 720 feet, where there was some gas.

Total runs from wells served by the Illinois Pipe Line Co. in western Kentucky during August were 112,123.27 bbls.

Production in Daviess County during July, according to the State Tax Commission's report, amounted to 51,755 bbls. which brought $44,824.07 to the producers and landowners. Tax of $448.27 was paid on the production.

ILLINOIS

No new completions are reported from the Illinois fields.

Five Wells Completed in Lower Eastern Fields; Two New Tests in Ritchie County, W. Va.

By STAFF CORRESPONDENT

PITTSBURGH, Pa., Sept. 18.—Only five wells were completed in the lower eastern fields during the week. Three were gas wells and two were small producers with an initial daily production of 6 bbls. In addition five dry holes were reported.

There has been no decrease in refinery demand during the past few weeks. Consumption is exceeding production at present, and if reduced to the allowable figures set under the code, all refineries will be forced to curtail runs to stills. Drilling has been increasing but under the new regulations, completions will be slower.

The best well for the week was a gas well in Southeast Ohio. In Section 8, Brush Creek Township, Muskingum County, Hopewell Fuel Gas Co. completed a test on the Thomas B. Weaver farm in the Clinton sand at a depth of 4,240 feet. It gauged 2,500,000 feet a day.

Other completions in Southeast Ohio were small. In Athens County, SE Section 33, Trimble Township, Preston Oil Co. completed No. 1,524 on the Sunday Creek Coal Co. lease. It was drilled in the Clinton sand at a depth of 3,615 feet and had a showing for about 3 bbls. a day natural. After shot production was not increased.

In Morgan County, McIntire and Guthrie and others completed a second test on the Al Giles farm, NW Section 27, York Township. It was drilled in the Berea grit, a depth of 937 feet, and is a gas well showing for about 300,000 feet a day. In the same county, but in Section 34, Deerfield Township, 1 mile west of Morganville, George B. Hazlett drilled a second test on the Effie Massy farm through the First Cow Run sand and found it dry. The depth was only 125 feet.

In Washington County, 1 mile south of Dale, Lot 1,093, Wesley Township, Kevin Corp. and others drilled a test on the C. W. Batchelor farm through the First Cow Run to a depth of 490 feet. It was dry and abandoned.

WEST VIRGINIA

There were no completions in West Virginia. Three tests proved dry. In Kanawha County, Godfrey L. Cabot drilled a test on the A. H. Huntington lease in Cabin Creek district through the Berea sand and it was dry.

In Pleasants County, Dinsmoor & Co. drilled a test on the Lavina Jones farm in Washington district through the Cow Run sand. It proved to be a dry hole and will be used as a pressure hole. In Union district, Albert Neeley and others drilled a second test on the Oliver Gorrell farm through the Injun sand to 1,735 feet. It was also a dry hole.

In Lost Run Pool, Clay district, Ritchie County, West Virginia, Boehm and Strickler Farm Oil Co.'s No. 3, on the Boehm and Strickler lease, produced 275 bbls. the last 24 hours. Their No. 2 on the same lease produced 150 bbls. during that day. These are the best two wells completed in several years. No. 2 of the Richards Farm Oil Co. on the Frank R. Ball farm produced 50 bbls. the last day. None of the wells has been shot but occasionally the tools are run in the hole to keep them from bridging over.

Two new tests are starting in the pool. Lucas and Mahaney are rigging up to drill a second test on the Catherine Ball farm. R. W. Elder has started drilling a second test on the S. E. Satterfield farm. Richards Farm Oil Co. has started drilling a second test on the Michael Noran farm. The same company has completed a rig for No. 4 on the Frank R. Ball farm. This rig is about 350 feet southeast of its No. 3 which places it nearer the heavy pay. Frank Finley and others are down 600 feet in No. 4 on the Boehm and Strickler lease. Richards Farm Oil Co. has No. 3 on the Frank R. Ball farm drilling at 650 feet. Smith and others have passed the 1,000-foot level on the C. H. Fredrick farm. No. 1 of Richards Farm Oil Co. on the Michael Moran farm is past the 1,000-foot level.

In Murphy district, Ritchie County, W. H. Bickle is rigging up to drill on the Jennings Fox farm. The Lewis and Litten Gas Co. has started drilling a test on the Conley heirs farm. In Grant district, Leeton and Flanigan are preparing a location on the Roy Delaney farm, and E. Dilley and others are ready with one on the A. E. Dye farm.

In Boone County, Pure Oil Co. is drilling three wells. The test on the A. M. Prichard lease in Sherman district has reached 2,485 feet. Its No. 60 on the Federal Coal Co. tract is down 2,066 feet, and its No. 62, same lease, has reached 1,847 feet. Same company has made a location for No. 42 on the Lafollette, Robson and Prichard tract A.

In Clay County, the test of Davenport-Davis and others on the M. S. Price and Holt heirs lease in Henry district is drilling at 2,445 feet. In Wetzel County, Manufacturers Light & Heat Co. is drilling its No. 3,300 on the W. P. Hubbard farm in Church district deeper and running casing to 2,200 feet.

In Cabell County, Petry and Borders are about on top of the Shale on the Shelby Johnson farm in Guyandotte district. In the same district, J. W. Ramsey & Son are down 705 feet on the W. E. Duncan lease. Activity in this district has dwindled, there being but two other rigs up, that of H. H. Baker Co. on the J. M. Lewis lease, and the Fairfax Gas Co. on the United Fuel Gas Co.'s lot. In McComas district, no progress was reported.

In Calhoun County, Lowther and Shuman are fishing for the tools on top of the sand on the Rufus and Maude Mace farm in Lee district. The depth is 1,950 feet. In Sherman district, F. F. McIntosh is down 1,200 feet on the O. S. Bennett farm. Lyle S. Ayers and others are drilling at 1,000 feet on the Kate Garrison farm. Poling and Mollahan are down 950 feet on the Almetta Wilson farm. C. B. Lewis and others are drilling at 1,180 feet in a second test on the W. T. Kelley farm, and McCall & Co. are on top of the Injun sand on the White Hall farm. In Sheridan district, Chemical Oil Co. is down 550 feet in a second test on the Margaret J. Webb farm, and W. J. and O. L. Yoke have reached 1,325 feet in No. 3 on the A. T. Yoke farm. In Center district, W. A. Bickerstaff and others are drilling at 1,200 feet in a second test on the Edward Gainer farm.

In Gilmer County, McCall and others are drilling at 1,275 feet on the Lee Gainer farm in DeKalb district. In the same district, A. E. Ellis and others have started drilling a second test on the Webster and Ware lease.

SOUTHWEST PENNSYLVANIA

Two wells were completed in Southwest Pennsylvania, one an important test. In Amwell Township, Washington County, the Union Gasoline & Oil Co. completed a test on the Leroy VanKirk farm in the Nineveh 30-foot sand as a gas well. The pool in which it is located has produced six fair oil wells, but two completions consisted of gas wells without drilling down to the Fifth sand. The test on the VanKirk farm is rated as a 500,000-foot gas well. In this field the Manufacturers Light & Heat Co. has started drilling on the Maggie I. Craft farm. Wise Oil & Gas Co. is building a rig on the E. E. Roach farm.

In South Franklin Township, Washington County, E. H. and J. B. Tague completed No. 6 on the Adaline D. McKennan estate in the Dunkard sand at 856 feet. It is a 3-bbl. pumper and the lightest of recent wells on that streak. In East Findley Township, Hallam and Lewis and others are down 1,825 feet on the H. D. Ely farm.

In Washington County, four new tests are listed. In Somerset Township, Naomi Oil & Gas Co. is drilling on the E. E. Daniels farm, mapped as the James M. Williams farm. It is 625 feet deep. In the same township, Ecwood Oil & Gas Co. has a rig standing on the Lee Mansfield farm. These two wells are in the old gas pool southeast of Amity near Ellsworth. The latter is a little southwest of Ellsworth between two good gas wells. The gas is found in the Big Injun and the Bayard sands.

In West Bethlehem Township, George Gray has started drilling a second test on the Harvey Long farm north of Odell. In Morris Township, James McCracken & Co. have a rig standing on the H. Sanders farm.

In Greene County, Convex Glass Co. is drilling at 2,000 feet on the Samuel Morse farm in Dunkard Township. In Perry Township, Carnegie Natural Gas Co. is down 2,700 feet in drilling deeper its No. 2 on the Leasure Cowell farm. J. B. Orndoff is building a rig on the H. B. Scott farm, Center Township.

Colorado Expecting Wildcatting Rush in Spring; Discontent Over Some State Allocations

By TOLBERT R. INGRAM
Staff Correspondent, Rocky Mountain Area

DENVER, Colo., Sept. 18.—The Hobbs proration committee will meet in Santa Fe September 27 to discuss proration of the field under the code. Texas Co.'s No. 3-A Lynch, in the Lea Pool, made 310 bbls. of oil initial following completion. Flynn, Welch & Yates' No. 66 State, in the Artesia Pool, was a small producer and will be drilled deeper.

Colorado operators believe the application of the code will shift wildcatting next spring to this state. Mountain Fuel Supply Co.'s deep test in the Hiawatha gas field continues to show oil and gas saturation at 6,217 feet. Ramsey Petroleum Co.'s second well in the Buckingham district is spudding. There were no completions or new operations in Colorado reported.

Osage producers in Wyoming have protested the allowable outlet for that district under the governor's allocation. Two wells in that field came in flowing 25 and 35 bbls. overnight. One new location was reported in the Frannie Field. Carter Oil Co. has sold its Salt Creek leases.

In Montana Yukon Oil Co.'s test in the North Cut Bank Field was a disappointment in the Darling sand and will go to the Madison. Texas Co.'s No. 1 Fisk may make a producer after showing for a water well. The Fulton well on the west side is showing some water. Several wells are being completed.

NEW MEXICO

R. H. Morrison, chairman of the Hobbs proration committee, has asked for a meeting of the committee at Santa Fe with Gov. Arthur Seligman, State Geologist E. H. Wells and Land Commissioner Frank Vesely, on September 27. It is understood the operators will discuss with the state officials the proration of the Hobbs Pool under the code. The governor recently asked Secretary Ickes to allot to New Mexico a much larger daily allowable than subsequently was named in the secretary's order and it is understood he also asked the administrator to put the enforcement of proration in the state under his control.

Lea County

Texas Co.'s No. 3-A Lynch, C NW NE Section 34-20-34, in the Lea Pool, is listed as a completion after several tests of production following the treating of the well with acid. Its total depth is 3,475 feet and the pay was 3,438-45 feet. Initial production was 310 bbls. plus 30 per cent water, after being treated with 580 gallons of acid. The elevation is 3,725 feet and the top of the white lime was 3,562 feet.

The only other operation in the Lea Pool is Cranfill & Reynolds' No. 4 State, C Lot 10, Section 2-21-33, running 8¼-inch at a total depth of 3,560 feet.

In the Jal area, Continental Oil Co.'s No. 2 McCallister 24-A, NW NE NE Section 24-26-36, is drilling at 1,370 feet in the red beds, and Western-Anton's No. 1 Conditt, C SW SW Section 12-25-36, is waiting after cementing 8¼-inch at 2,763 feet with 200 sacks.

In the South Eunice area, Carter Oil Co. and Continental Oil Co.'s No. 1 State, C NE NE Section 28-22-35, is coring in lime at 4,075 feet with no shows.

Eddy County

Flynn, Welch & Yates' No. 66 State, NW SE SE Section 30-18-28, Artesia area, tested the oil sand at 1,905-17 feet after a shot with 50 quarts and it made only 2 bbls. per day. It will be deepened. Total depth is 1,939 feet. Van P. Welch, Jr., and others' No. 1 State, NW NE SE Section 22-17-28, is drilling at 1,550 feet. Compton Oil Co.'s No. 6 State, SW NE SW Section 15-16-23, northwest of the town of Artesia, is drilling at 135 feet in lime.

Ralph Spearow and others' No. 1 McClellan, SW NW NE Section 22-22-23, Indian Creek, is shut down at 3,695 feet in black lime. Pecos Valley Drilling Co.'s No. 1 McIntyre, NW NW Section 27-23-25, Dark Canon, is drilling at 515 feet.

Grayburg Oil Co.'s No. 4 Burch, C SE NW Section 19-17-30, Maljamar area, is drilling at 2,690 feet in lime. It had a show of oil at 2,330-40 feet and another at 2,520-25 feet. C. H. Lockhart and others' No. 2 Root, C SW SW Section 7-17-30, is shut down at 2,845 feet to run the 6¼-inch.

San Juan County

Kutz Canon Oil & Gas Co.'s No. 1 Day, SW cor. Section 20-28-10, Kutz Canon district, is cleaning out and drilling at 4,145 feet. It is troubled with cavey ground. The 5⅞-inch pipe is cemented at 3,797 feet.

Aztec Producers, Inc.'s No. 1 State, NW SE Section 16-29-11w, Aztec district, is rigging up to pump at 850 feet. The location is southeast of the Oswell producers. R. C. Oswell's No. 4, SW NW NW Section 34-30-11, is shut down after spudding. McCoy & Phillips' No. 1 Martin, NE SE NW Section 34-30-11, is drilling at 500 feet, and Fred Barrett's No. 1 Hart, SW NW SW Section 11-29-11, is drilling at 1,400 feet.

COLORADO

Some of the oil men of this area who have been studying the code and Secretary Ickes' order allotting production to the states have reached the conclusion that Colorado stands a good chance of becoming the principal wildcatting territory in the west next year. This state was allotted 2,400 bbls. daily. Colorado consumed 155,721,000 gallons of gasoline in 1932 and 176,493,000 gallons in 1931, as shown by collections of gasoline taxes. These figures indicate a consumption of 25,000 to 30,000 bbls. daily of crude oil. The state actually is producing only its allowable of 2,400 bbls. daily under the code. If Colorado can produce more than 2,400 bbls. daily, the excess must be consumed in the state or it will come under the provisions of the code regarding oil in interstate commerce. The figures show a wide spread between actual production and the limits which may be reached before proration becomes a serious problem here. For the purposes of the code a new field is one discovered after the code was signed and in which 10 wells have been completed. This provision further enhances the advantages of the wildcatter.

Moffat County

Mountain Fuel Supply Co.'s No. 2 Florence Wilson, C NE NE Section 22-12-100, Hiawatha Dome, is drilling and coring at 6,217 feet and the cores continue to show oil and gas saturation, but not in sufficient quantities to warrant a test. Same company's No. 1 Wheeler, SE NW NW Section 30-12-100, is drilling at 1,425 feet, and Texas Co.'s No. 1 Van Schaick, SW cor. Section 19-12-100, is laying water and gas lines and installing heaters.

Mountain Fuel Supply Co.'s No. 1 Hatch, SE NW SW Section 9-11-101, Sugarloaf district, is still shut down at 3,519 feet waiting for heavier rotary equipment to go deeper.

Texas Co.'s No. 1 Iles, SE NW Section 23-4n-92, Iles Dome, is drilling at 2,004 feet in new hole.

The Rocky Mountain Gas Co.'s No. 1 Eberle, SE SW SE Section 9-6n-91, Craig Dome, is showing considerable gas in the Morapas sand at 3,570 feet. The 5⅛-inch was cemented on top of the sand at 3,560 feet.

William A. Myers and others' No. 1 State, NW SW SW Section 16-4n-101, Skull Creek, is drilling at 3,300 feet in broken lime and shale formation in a 6⅝-inch hole.

Routt County

Mid-Colorado Petroleum Co.'s No. 1 Omholt, NE cor. SE Section 29-4n-87, Fish Creek, is drilling at 2,310 feet. It was shut down for the winter at 2,200 feet and last fall showed for about 3,000,000 feet of gas per day in the Frontier topped at 1,917 feet.

Fremont County

Cherry Creek Placer Co.'s No. 1 Lucas, SW cor. NE Section 32-18-69, Florence district, is drilling at 2,795 feet in blue shale, and Waterville Oil Co.'s No. 1 State, SE cor. NW Section 16-18-69, is drilling at 2,440 feet in black shale.

Weld County

Ramsey Petroleum Corp.'s No. 1 Scriven, C NW Section 22-7n-59, Buckingham district, three-fourths of a mile southwest of its gas well, began spudding September 6. The 15½-inch was cemented at 181 feet and drilling has been resumed with rotary at that depth.

WYOMING

Wyoming, like the other Rocky Mountain states, has no regulative body with legal powers to allocate the production among the various fields under the state allowable established in Administrator Ickes' order. However, Gov. Leslie A. Miller held a conference with Pierra La Fleiche, state oil and gas inspector, and allocated the state's allowable of 30,050 bbls. daily among the various fields. This allottment was based primarily on present pipe line runs. One exception was the Osage Field in Weston County which was allocated 750 bbls. daily, an increase of 250 bbls. over what the pipe line runs have shown. This apportionment developed immediate and emphatic protests from the operators who claim the field is making 1,160 bbls. daily. Protests have been sent to the Federal and state co-ordinating committees and it is believed the trouble will be adjusted. The operators claim the order violates the spirit and letter of the code, and undertakes to prevent the proration of stripper wells and misinformation is likely at the bottom of the cut in Osage's production. Weekly production reports generally show pipe line runs of oil marketed. However, in this district a number of small refineries transport their crude in trucks and production generally is much larger than shown by the pipe line runs.

The allotment made by the governor among the different fields follows:

Salt Creek, 17,130; Big Muddy, 1,800; Rock River, 1,130; Poison Spider, 790; Osage, 750; Lander district, 730; Lost Soldier, 1,800; La Barge, 1,000; Frannie, 200; Pilot Butte, 30; Badger Basin, 40; Ferris, 20; Dutton Creek, 70; Midway, 70; Elk Basin, 540; Oregon Basin, 1,070; Byron-Garland, 870; Hamilton Dome, 830; Lance Creek, 230; Teapot, 20; Rex Lake, 30; Grass Creek, 900.

Weston County

Two flowing wells in the Osage Field marked this week's drilling results. Chadron-Osage Oil Co.'s No. 20, CWL SW SW Section 14-46-64, found the sand at 2,054-65 feet and flowed 35 bbls. over night. It will be shot before being completed. Same company's No. 22, CNL NE SW Section 14-46-64, found the pay at 1,840-50 feet and flowed 25 bbls. It will be shot before completion. Same company's No. 23, NW NE SW Section 14-46-64, is drililng at 1,500 feet. This company recently contracted the sale of 15,000 bbls. of crude to Continental Oil Co. for its Denver refinery with an option on 15,000 bbls. additional and has completed the laying of a 3-inch line from its lease, where it has 40,000 bbls. in storage, to the Burlington loading racks.

Federal Oil Co.'s No. 5, SE cor. Section 15-46-64, is feeling for the top of the sand below 1,320 feet and Yellowstone Oil Co.'s No. 4 Butcher, SE NW NW Section 23-46-64, is shut down. Western States Oil Co.'s No. 9 Bock, SE NW Section 14-46-64, is rigged and ready to spud, and Riggs Oil Co.'s No. 3, SE NE Section 16-46-64, is drilling below 2,500 feet.

LeFaivre Oil Syndicate's No. 1 Martin, NW SE Section 29-45-68, Buck Creek district, is drilling at 2,000 feet and carrying the 8¼-inch.

Crook County

Dr. R. R. Kinter and others' No. 1 Rockford-Wyoming, NE SE Section 13-52-62, in the Rocky Ford district, is drilling at 300 feet after casing off a show for 6 bbls. per day initial at 181 feet. Manlove & Tracey's No. 1, Section 35-50-66, Wind River district, is reported to have spudded 100 feet and shut down, and Elmore Syndicate's No. 1 Oost, SE SW NW Section 1-49-66, is drilling at 680 feet. Baker Exploration Co.'s No. 1, NE NW Section 20-49-66, Kara district, is drilling at 1,300 feet.

Niobrara County

J. M. Huber Corp.'s No. 2 Argo, NE SE SW Section 27-36-65, Lance Creek, an old well drilled deeper, encountered water in the Lakota at 3,675 feet and is plugging to abandon.

Park County

A new operation in the Frannie Field is reported in V. M. Kirk's No. 1 Government, SW cor. Section 24-58-98, which is building rig. It is an east offset to a producer and is being drilled under an arrangement with the Continental Oil Co.

Resolute Oil Co.'s No. 1 State, C NW SW Section 16-57-101, Badger Basin, is drilling at 1,760 feet.

Big Horn County

Torchlight Oil Corp.'s No. 1, SW cor. SE Section 19-51-92, in the old Torchlight shallow field, is drilling at 4,000 feet in the Madison lime with a show of oil.

Carbon County

Ohio Oil Co.'s No. 2 Hazlett, NE NE Section 34-23-79, Allen Lake, is drilling at 500 feet. Rotary rig from the Grease-

wood Field in Colorado is being used and it will go to the Sundance and probably to the Pennsylvanian. Mutual Oil Syndicate's No. 5 Dutton Creek Oil & Gas Co., NE NW SE Section 12-18-78, is drilling out cement after setting the 6⅝-inch on top of the Shannon sand at 1,675 feet. It is showing considerable gas. Same company's No. 9 Dutton Creek, NW NE Section 12-18-78, which will go to the Dakota, is fishing for parted pipe at 4,655 feet. Earl W. Reeder, Inc.'s No. 1 Union Pacific, C SW SW Section 19-20-83, Overland Dome, is drilling at 2,750 feet.

Sweetwater County

Wyoming-California Petroleum Co.'s No. 1, SW SE SE Section 23-17-104, South Baxter Basin, which was started in 1924 as a deep test with rotary, will abandon attempts to fish out two rotary bits and two strings of cable tools and will complete it as a gas well. Total depth is 4,111 feet. It showed for 35,000,000 feet of gas in the Frontier. It is believed to be bottomed close to the top of the Sundance and the plan was to go to the Tensleep, which has never been tested in this field.

Mountain Fuel Supply Co.'s No. 3 Poston, C NW NW Section 22-16-104, South Baxter Basin, cemented the 8⅝-inch on top of the Frontier at 2,595 feet and is drilling out plug.

Natrona County

Carter Oil Co., which has been inactive in this district for several years, has sold its leases in the E half, Section 17-39-78, east side of Salt Creek, to Fred Goodstein, of the American Iron & Metal Co. Fifteen wells were drilled on the lease of which 13 are pumping an average of 2 bbls. each per day. It has not been decided whether the wells will be junked or sold with power, tanks, etc.

MONTANA

Yukon Oil Co.'s No. 1 Krueger, C SW SW Section 14-37-5w, in the North Cut Bank, or Stewart area, a north offset to Santa Rita Oil & Gas Co.'s No. 1 Jacobson, which two months ago indicated the opening of a new pool when it came in for 62 bbls. of oil on the pump with a show of water, was a disappointment in the Darling sand. It found the Darling at 2,598-2,668 feet and at 2,623 feet water came in, rising 2,000 feet in the hole. There was a slight show of oil. It is drilling at 2,676 feet and will go to the Madison lime.

Texas Co.'s No. 1 Fisk, C NW NE Section 14-35-6w, at the northwestern end of the Cut Bank oil area and in the vicinity of the Santa Rita producers in the Blackfoot Indian Reservation, looks as if it will make a well. It topped the Darling at 2,931 feet and the Ellis at 2,948 feet. It looked like a water well and it was decided to drill on down to the Ellis. At 2,981 feet it was shut down for several hours. When operations were resumed, oil was found standing in the hole. At last reports it had 350 feet of oil and 25 feet of water and was cleaning out caves.

W. M. Fulton's No. 1 Haggerty, NE cor. Section 16-34-6w, 1½ miles west of nearest producer, is showing some water. It has been swabbing 70 to 75 bbls. of oil per day at 3,040 feet, total depth, and at last report was making 5 to 6 bailersful of water.

Alberta-Pacific Consolidated Oil Co.'s No. 2 Kiesel, SE cor. NW Section 11-34-6w, set the 6⅝-inch at 2,823 feet for a water shutoff and had a show of oil at 2,841-45 feet. It is waiting for 5⅜-inch pipe to set on top of the Darling at 2,841 feet. A. B. Cobb's No. 1 Walburger, SW cor. SE Section 35-34-6w, is drilling at 2,824 feet, 10 feet in the Darling with a good show of saturation. Oil rose 100 feet when the sand was topped. Dakota-Montana Oil Co.'s No. 2 Haglund, Jr., NE NE Section 14-34-6w, is drilling at 2,500 feet.

Consolidated Gas Co.'s No. 1 Ewing, C NE NE Section 3-34-6w, an outside well, found the Darling at 2,912-50 feet and is 2 feet into the Ellis. It swabbed 108 bbls. first 24 hours, 55 bbls. the second period, and since then has averaged 45 bbls. per day. It will be shot. Montana Headlight Oil Co.'s No. 1 Britton, NW SW NE Section 14-34-6w, cemented 6¼-inch with 30 sacks at 2,862 feet and had a show of oil at 2,860-62 feet. Montana Power Gas Co.'s No. 1 fee, SW cor. Section 1-35-5w, was drilled to the top of the Ellis at 2,836 feet and was completed without any increase in gas. It gauged 7,000,000 feet at 2,820-36 feet. Same company's No. 1 Miller, SW NE NE Section 4-35-5w, is spudding at 295 feet, and its No. 1 Vermont Loan & Trust, on line between Sections 21 and 28-36-5w, was deepened to the top of the Darling at 2,850 feet and water rose 100 feet in the hole. It will plug back to the base of the Moulton at 2,695 feet and complete as a gas well. It gauged 7,300,000 feet in the Moulton. Nyragen-Bell's No. 1 Anderson, SE NE SW Section 26-36-6w, has rig up. Santa Rita Oil & Gas Co.'s No. 1 Cardwell, C NE SE Section 15-35-6w, is drilling at 1,700 feet.

R. C. Tarrant's No. 1 Carman, C NW NW Section 19-34-5w, has rig up, and his No. 3 Haglund, Jr., C SE NE Section 13-34-6w, is bottomed at 2,761 feet in the top of the Darling with 400 feet of oil in the hole and making sprays of oil and gas. His No. 1 Larson, C SW NE Section 12-34-6w, is fishing for bailer at 1,885 feet.

Imperial Oil Resumes Turner Valley Activity; Interest Centers in Tests in Far South Area

By VICTOR LAURISTON
Staff Correspondent, Canadian Fields

CHATHAM, Ontario, Sept. 16.—Deliveries to the three Calgary refineries from the Turner Valley Field in August totaled 68,339 bbls. compared with 63,000 bbls. in July. The August total is the highest since March of 1932 when 71,533 bbls. were delivered. The increase is attributable largely to the operation of the Royalite Oil Co.'s gasoline absorption plant. Deliveries to Imperial Oil Refineries, Ltd., in August totaled 62,094 bbls., including 14,533 bbls. of crude naphtha, 42,596 bbls. of discolored naphtha and 4,965 bbls. of light crude oil. These figures compared with 55,664 bbls. in July, including 14,098 bbls. of crude naphtha, 34,403 bbls. of discolored naphtha and 4,163 bbls. of light crude. Deliveries to Bell Refining Co. were 4,862 bbls. in August compared with 6,300 bbls. in July, while Regal Oil & Refining Co. took 1,383 bbls. in August as against 1,036 bbls. in July.

For the seven months of 1933 the refineries have run 440,471 bbls. against 516,057 bbls. in the same period of 1932. Deliveries in the latter half of 1932 were below present monthly averages, so that the total refinery deliveries for the current year may ultimately reach, if they do not exceed, the 1932 total of 667,286 bbls.

Imperial Resumes Activity

Imperial Oil, Ltd., which has been inactive in Turner Valley drilling since completion of its campaign over a year ago, is once more starting work, a new test having been announced for the South Turner Valley Field. Drilling will be carried on through Northwest Co., subsidiary of Imperial Oil, Ltd., which has handled the company's drilling activities in western Canada outside the Turner Valley Field. The new test has been spotted in LSD 5, Section 27-18-2w5, offsetting Publix Oil & Gas Co.'s No. 1 in LSD 8, Section 28-18-2w5. The acreage is owned by Calgary & Edmonton Corp., Ltd., of Winnipeg. The only previous development in Section 27 was Merland Oil Co.'s No. 1. The Merland company holds the north half of Section 27, but its test was completed by Imperial Oil, Ltd. Mar-Jon Oil Co.'s No. 2 in LSD 10, Section 28, offsets the new test diagonally to the northwest. The new test will probably be known as Northwest-Calgary & Edmonton's No. 2.

Drilling in Mar-Jon Section

In Section 28-18-2w5, South Turner Valley, Becker Syndicate's No. 2 Anaconda, LSD 15, cemented 10-inch casing on top of the Home sand. New hole is being made below 4,250 feet. Production is possible in the Home sand, a little below this depth, and in the Dalhousie sand farther down. Merland's Oil Co.'s No. 1, to the east, got a large wet gas flow in the Dalhousie. Drilling may be continued to the deep lime around 5,500 feet.

In the same section, Mar-Jon Oil Co.'s No. 2, LSD 10, rotary test, is below 2,525 feet. Pacalta Oils' No. 2, LSD 7, is below 2,100 feet and will carry 13-inch casing to 2,800 feet. Sunburst-Mid-Royal's No. 1, LSD 14, below 1,115 feet, is logging satisfactorily, getting the Benton at 90 feet. Publix Oil & Gas Co.'s No. 1, LSD 8, is at 1,600 feet. Spooner Oils' No. 5 Anaconda, LSD 1, is reported ready to spud.

Miracle Tests Lime

In the Mercury area, Miracle Oils' No. 2, LSD 16, Section 5-19-2w5, is reported below 6,310 feet, 369 feet in the lime and apparently entering a second porous horizon. Associated Royalties' No. 1 Spray, LSD 9, same section, is reported below 3,350 feet and carrying 13⅜-inch casing behind the tools.

Farther south, Sterling Royalties' No. 1, LSD 1, Section 33-18-2w5, is below 3,250 feet. Livingston Syndicate's No. 1, LSD 5, Section 34-18-2w5, is below 2,800 feet.

Far South Tests

In the far south end, Hoffar-Lundy Syndicate's No. 1, LSD 13, Section 22-18-2w5, is below 3,400 feet. This test, a mile south of Mar-Jon-Freehold's No. 1 producer in Section 28, has made rapid headway and will likely be the first of three tests to determine whether the producing horizons extend this far south.

Union Drilling Co.'s No. 1, LSD 8, Section 21-18-2w5, is a little farther south, but has been standing after cementing at 480 feet.

Central Turner Valley

In the Central Turner Valley area, Okalta Oils' No. 4, LSD 8, Section 1-20-3w5, is below 1,245 feet.

Considerable interest has been aroused by the recent announcement of the entry of McDougall-Segur Exploration Co. into active drilling. Tests already drilled in this portion of the field by New McDougall-Segur Oil Co. and other interests have shown a fairly good commercial production of light crude can be secured from the McDougall-Segur sand between 2,880 and 3,100 feet. Wells can be completed in less than three months. One was recently carried to 3,100 feet representing a total inclusive cost of $8,794.23. Production runs 50 bbls. a day or better.

North Turner Valley

In the North Turner Valley area, Model Oils' No. 2, LSD 16, Section 22-20-3w5, is being tested with acid following a heavy shot. It entered the lime at 5,524 feet and was still in a brown limestone formation when drilling was discontinued at 6,539. The well was bridged back to the main porous horizon in the upper lime and shot with 810 quarts. The shot increased the wet gas flow from 2,000,000 to 3,000,000 feet a day. Later some 1,500 gallons of hydrochloric acid were pumped into the hole, but the results of acid treatment had not been determined. This is the first time that modern acid treatment has been used in the Canadian West.

Tests in the Foothills

In the forest reserve area west of Olds, Hunter Valley Oil Co.'s No. 1 McLaren, Township 31-10w5, is below 2,160 feet.

In the old Oil City Field, Oil City Royalties' No. 1 Patrick, Section 30-1-30w4, is drilling at 910 feet after running casing to 900 feet.

In the Moose Mountain area, Graystone Consolidated's No. 2 Signal Hill, LSD 9, Section 34-23-5w5, is below 1,300 feet.

Border Fields

On the Comrey structure, south of Medicine Hat, southeastern Alberta, D. A. MacDonald Syndicate's No. 1, Section 9-1-5w4, is rigging up under the name of Royalty Holdings' No. 1, on acreage of Northwest Co., Ltd., Imperial Oil subsidiary.

On the Alberta end of the Reserve Dome structure, Rialto Oils' No. 1, LSD 4, Section 15-1-9w4, is below 600 feet after setting 16-inch casing around 500 feet.

On the Twin River structure south of Lethbridge, Nordon-Roney's No. 2 Twin River, LSD 11, Section 2-2-20w4, is rigged up again and fishing for bailer lost when the outfit was destroyed by fire some weeks ago.

Red Coulee

In the Montana end of the Red Coulee Field, Alberta Development-Monalta's No. 4 Buckley, SW Section 1-37n-4w, is below 800 feet with the formations logging higher than in adjacent wells.

Askalta Oils, Ltd., of Calgary, is locating its new test probably west of its six producing wells. W. F. M. Plotke, managing director, and A. Macleod Sinclair, both of Calgary, visited the field recently accompanied by Russel V. Johnson, geologist, to select a location. Further tests will probably be drilled next spring. Askalta Oils has a monthly production of 4,000 to 5,000 bbls. from six wells, crude being marketed to the refineries at Coutts, Alberta.

Deep Test for Athabaska

In the Athabaska district, northern Alberta, Athadome Oils' No. 2, LSD 3, Section 15-63-23w4, standing for some time at 2,236 feet, has resumed drilling and will be carried down to test the limestone. The test got a gas flow, estimated at 2,000,000 feet a day, at 1,315 feet; utilized as fuel. In the Grand Rapids formation around 1,650 feet a 50-foot sand was encountered yielding about 20 bbls. a day of 13 gravity black crude; the upper 40 feet of sand showed oil saturation with water in the bottom 10 feet. If production is not found in the limestone the hole will be bridged back and the sand in the Grand Rapids formation given a shot. Charles Minchener is in charge.

Saskatchewan

In the Hudson Bay Junction area of northern Saskatchewan, Trail Blazer Oil & Gas Co.'s No. 1 has standard outfit

ready to spud in with 15-inch hole, in LSD 1, Section 31-44-2w2. Senator Oil & Gas Development Co. of Ottawa contemplates starting a test this fall. The area was given a structure test last year by Petroleum Engineering Co. of Winnipeg. This company's test in Section 16-45-3w2, was carried to 351 feet, when drilling difficulties compelled its abandonment; encouraging oil shows were met at 300 feet.

Drilling is expected to resume this fall on the Blackfoot structure 45 miles south of Regina, controlled by the Blackfoot Oil & Gas Co. of Regina. Location was made some years ago in Township 13-20w2, but at a depth of 290 feet drilling was discontinued.

On the Dirt Hills structure, 50 miles southeast of Moose Jaw, Highwood Sarcee Oils' No. 2, LSD 8, Section 23-12-24w2, is reported drilling out cement at 1,625 feet. Some gas was encountered at 700 feet, 1,385 feet and 1,600 feet.

Drilling in Ontario

In the Dover Field, Kent County, Ontario, Raleigh Development Syndicate's No. 1, Stevens farm, Lot 2, front concession, Dover Township, has finished a fishing job at 3,300 feet, and is preparing to test production. It is reported good for around 500,000 feet of gas per day, with a probable oil production of 30 to 40 bbls. from the Trenton.

In Chatham Gore, Luke Smith's No. 1, Lot 23, Concession 2, looks like a dry hole.

In the Raleigh Field, Kent County, Olga Oil & Gas Co.'s No. 7, Earl Flook farm, Lot 19, Concession 8, Raleigh Township, has set 6-inch casing around 1,000 feet. In the Tilbury Field, Salina Oil & Gas Co.'s No. 4, Gifford farm, has set 6-inch casing at 825 feet.

In the Dawn Field, Lambton County, Union Gas Co.'s No. 67, Lot 24, Concession 9, Dawn Township, is below 800 feet.

In Ekfrid Township, Middlesex County, Union Gas Co.'s No. 4 Ekfrid, Lot 8, Range 2s, has finished dry in the top of the "big red" formation around 1,820 feet. The only show was a small pocket of gas and oil at about 1,340 feet.

Michigan Fields

(Continued from Page 54)

to locate a new oil or gas field near the old Muskegon Field. The new test will be No. 1 N. Liefers, NW NE SW Section 22-9n-14w, Ravenna Township, Muskegon County. Jetter Oil Co. also has started drilling a new well in the old field, No. 1 Torrent estate, NE NE NE Section 17-10n-16w, Muskegon Township, on the Muskegon River flats.

Permits

Permits for 10 new locations, including Jetter Oil Co.'s two new wells, one in Oceana and the other in Muskegon County, were issued by the State Conservation Department. Five new Porter Township, Midland County, locations include Sun Oil Co.'s No. 4 J. L. Miller estate, SE NE SW Section 16; No. 5 J. L. Miller, NW NE SW Section 16; William J. Wilson, trustee's No. 2 Hattie M. Hodge, NW NW SW Section 18, and No. 3 Hattie M. Hodge, SW NW SW Section 18, and William J. Wilson's No. 2 Glen R. Hathaway, NE NE NW Section 18.

Two new Vernon Township, Isabella County, locations were issued to Mellon-Pollock Oil Co. No. No. 3 George S. House, N half NW Section 26-16n-4w, and No. 4 George S. House, SE SE NW Section 26.

Permit for a wildcat in an entirely new area was issued to Atlas Drilling Co., Inc., of Detroit, for No. 1 Marshall and Anna Cronk, W half SW Section 23-19n-1w, Gladwin Township, Gladwin County, about 35 miles north of Porter Township Pool.

McClanahan Oil Co. has staked five new locations for which permits probably will be taken out soon. They include No. 1 Howard Northrup, NE NE SW Section 20-13n-1w, Porter Township; No. 1 Ora Martin, SW SW NW Section 2, a wildcat in the northeastern part of the township; No. 1 John Brooks, SW SW SE Section 1-13n-1e, Mount Haley Township; No. 1 D. W. Frackelton, SE SE Section 18, Lincoln Township, Clare County, and No. 1 Stanley Demski, SE SE SE Section 28-15n-3w, Denver Township, Isabella County.

A. J. "Whitey" Weideman, of Mount Pleasant and formerly of Muskegon, has succeeded Fred Turner as umpire for the Porter Township proration committee when the latter resigned because of personal business. Mr. Weideman is associated with the Stork Oil Co. The committee notified all Porter producers that all wells making more than 100 bbls. a day will be allowed to produced only 60 per cent because of inadequate pipe line facilities and Michigan's allocation of 30,000 bbls. Producers were ordered not to treat any wells with acid except offsets to wells already treated and not to treat any wells without permission of the committee. They were also requested under a gentlemen's agreement to postpone completion of any wells drilling on other than offset locations. Several drilling wells have been shut down at the casing point above the Dundee pay sands complying with the agreement. These include Stork Oil Co.'s No. 1 Baxter, Gordon & Stewart's No. 4 Richmond, and Pure Oil Co.'s No. 2 Howard in Section 17.

Two more new locations for which permit applications have been filed include Gordon Oil Co. and Edward Stewart's No. 1 Ann Ryan, NW NW NW Section 36-13n-1w, Porter Township, Midland County, and one in Gratiot County, Dapar Oil Co.'s No. 1 Tedam, SW SW SE Section 5, Emerson Township.

Gratiot County Co-operative Syndicate's No. 1 Raycraft, in Section 20, Pine River Township, has been changed to Frank A. Madigan, trustee. Permit for William F. Brown's No. 1 Johnson, Section 21, Pine River Township, has been cancelled. Permits this week brought the Michigan total to 295 compared with 183 for the entire year of 1932.

Wildcat Operations in Louisiana-Arkansas

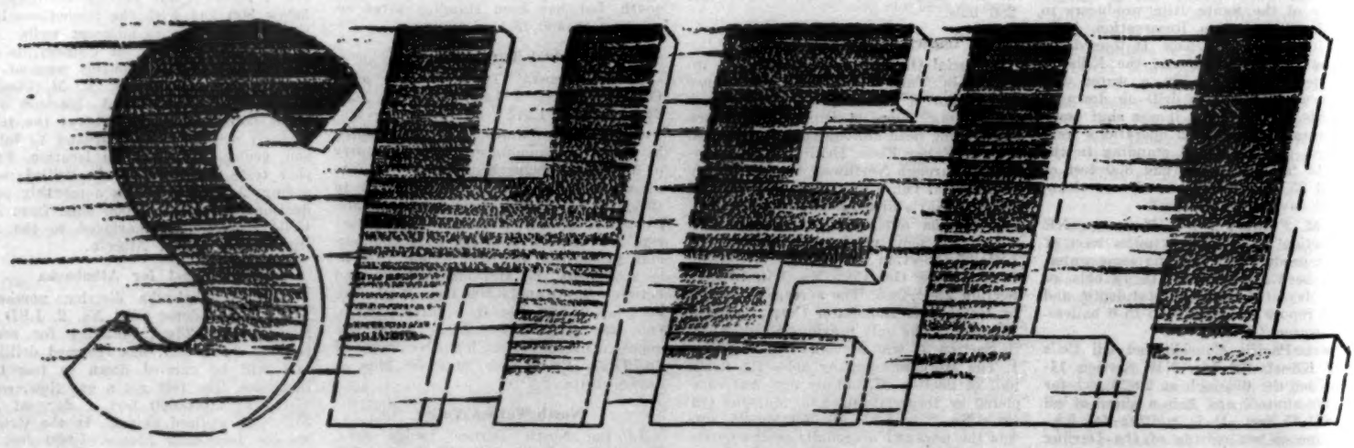
(Continued from Page 45)

Lambert et al's No. 1 Edwards, 300 ft. S and E, NW cor. SW NW Sec. 29-9-13 ..... Testing 3,360 ft.
H. C. Lessinger's No. 1 Bowman-Hicks Lbr. Co., 338 ft. S and E, NW cor. SW Sec. 13-9-13 ..... S.D. for wtr. 3,200 ft.
Joe Modisette's No. 3 Frost Lbr. Industries, 330 ft. S and E, NW cor. NE SW Sec. 16-9-13 ..... Drlg. hard lime 4,190 ft.
C. L. Nixon's No. 1 Patrick, 330 ft. S and E, NW cor. NE SW Sec. 21-9-13 ..... Tested dry; W.O.; T.D. 1,575 ft.
Robertson Drlg. Co.'s No. 1 Bowman-Hicks Lbr. Co., 330 ft. S and E, NW cor. NW NW Sec. 23-9-13 ... Dry and abd. 2,029 ft.
Sabine Royalties Co.'s No. 1 Balew & Carter, 330 ft. N and E, SW cor. NW SW Sec. 21-9-13 ..... Tested dry; W.O. 2,008 ft.
E. M. Self's No. 1 G. I. Paul, 330 ft. N and W, SE cor. NE SW Sec. 9-9-13 ..... Drlg. 1,813 ft.
Homer Tyson's No. 1 G. W. Hough, 330 ft. S and E, NW cor. SW NW Sec. 31-9-12 ..... Set 12-in. 40 ft.
Windson O. & G. Co.'s No. 1 Barr, 330 ft. E, 990 ft. N, SW cor. NW Sec. 15-9-13 ..... Set 10-in. 40 ft.; set 6-in. 1,493 ft.
Windsor Oil Co.'s No. 2 Barr, 330 ft. N and E, SW cor. NW Sec. 15-9-13 ..... Location.

Arkansas

ARKANSAS COUNTY

Allen & Wright's No. 1 C. P. Trice, SE cor. NW SW SE Sec. 9-2s-3w ..... S.D. 50 ft.



COLUMBIA COUNTY

C. W. Alworth et al's No. 1 W. D. King, SW cor. SE SW Sec. 16-17-20 ..... S.D. 1,864 ft.

JEFFERSON COUNTY

J. E. Elliott's No. 1 B. V. Nevin, 440 ft. N and E, SW cor. SW NW Sec. 24-4-10 ..... Derrick.

R. V. Harrell et al's No. 1 McGoughey, NW cor. Sec. 22-7-10 ..... S.D. 1,589 ft.

HEMPSTEAD COUNTY

Kentucky O. & G. Co.'s No. 1 Leslie, NW cor. SW NW Sec. 21-9-26 ..... Derrick.

LAFAYETTE COUNTY

Geo. W. Harper's No. 1 Reed-Bodcaw, NW cor. Sec. 16-15-23 ..... Drlg. 2,840 ft.

LONOKE COUNTY

Joe D. Strahan's No. 1 Hardin, NW cor. NW NW Sec. 13-2s-7 ..... Rig up.

MILLER COUNTY

Duluth-Ark. Oil Co.'s No. 2 Beck, 330 ft. S and E, NW cor. SE SW Sec. 24-15-26 ..... Drlg. 1,120 ft.

Claude English et al's (was Tarkington et al's) No. 1 Gibson, 1,980 ft. N, 660 ft. E, SW cor. Sec. 30-18-27 .. S.D. 300 ft.

OUACHITA COUNTY

J. D. Reynolds' No. 1 Snow Hill Baptist Church, 525 ft. E, 115 ft. S, NW cor. SE SW Sec. 28-15-15 ..... Set 6-in. 1,960 ft.; T.D. 1,969 ft.

POINSETT COUNTY

Ark. State O. & G. Co.'s No. 1 fee, C NE NE Sec. 13-11-3e ..... Derrick.

NEVADA COUNTY

Longoria et al's No. 1 Dick Gulley heirs, Sec. 3-13-20 .... S.D. 85 ft.

Mississippi

JONES COUNTY

Snow-Black Pet. Co.'s No. 1 Watson, 660 ft. W, 210 ft. S, center, Sec. 24-7-13 ..... Drlg. 3,350 ft.

LAMAR COUNTY

Lamar Oil Co.'s No. 1 Scott, NE NE Sec. 18-2n-14 ..... Arranging to set 5 3/16-in. 3,010 ft.

MADISON COUNTY

H. A. Wilson, tr.'s No. 1 Copex, 200 ft. N and E, SW cor. SW NE Sec. 24-9-3e ..... Drlg. 581 ft.

NEWTON COUNTY

Bob Dalton et al's No. 2 Majura, SE SE Sec. 25-6-11 .... Set 10-in. 593 ft.; S.D.

WALTHALL COUNTY

Mutual O. & G. Co.'s No. 1 Boyd, Sec. 34-2n-9e, SW cor. SW SE ..... Derrick pattern.

WARREN COUNTY

Orbet Drlg. Co.'s No. 1 R. L. Parker, 300 ft. E, CWL, Sec. 14-14-1e ..... Rig up.

Louisiana-Arkansas Proven Areas

North Louisiana

CADDO—BETHANY

Company, well, farm name, section and block—	Remarks:
Tom Collins Pet. Co.'s No. 1 Gill & Lipscomb, 660 ft. N, 1,566 ft. E, SW cor. Sec. 17-16-16	Derrick.

CADDO PARISH—BLANCHARD

Calatex O. & G. Co.'s No. 1 G. M. Agurs, Sec. 9-16-16	Comp. 3,000,000 ft. gas 2,997 ft.

CADDO—RODESSA

Ark. La. P. L. Co.'s No. 1 Williams & Windham, Sec. 4-23-16, 660 ft. S, 660 ft. E, NW cor. NE NW	Drlg. 6,150 ft.
United Gas Public Service Co.'s No. 1 Festervan, Sec. 13-23-16, 1,980 ft. N, 1,320 ft. E, SW cor.	Set 7-in. 5,430 ft.

DE SOTO PARISH

Tom McKinney et al's No. 1 J. M. Nabors, 330 ft. N and E, SW cor. SE SE Sec. 26-13-15	Rig up.

MOREHOUSE PARISH

United Gas Public Service Co.'s No. 29 Crossett Lbr. Co., 661 ft. E, 660 ft. N, SW cor. SW SW Sec. 17-22-5	Set 6⅝-in. 2,160 ft.
United Gas Public Service Co.'s No. 30 Crossett, Sec. 25-22-4e	Cmtd. 6⅝-in. 2,168 ft.; used acid 2,216 ft.; arranging test.
United Gas Public Service Co.'s No. 2 Patton, 3,375 ft. S, 2,917 ft. E, NW cor. Sec. 12-20-11	Waiting on gauge; T.D. 2,212 ft.

OUACHITA PARISH

Century Carbon Co.'s No. 3 McGee, 220 ft. S, 4,667 ft. E, NW cor. Sec. 10-18-4	Comp. 255,000 ft. gas 2,212 ft.
Geo. Pipe's No. 3 Nelson, Sec. 4-18-4e, 1,346 ft. W, 52 ft. S, NE cor. of Lot 8	Set 10-in. 108 ft.

RED RIVER PARISH

E. M. Thompson's No. 1 T. J. Crichton, SW SE Sec. 17-13-10	S.D.; W.O. 1,740 ft.

SABINE PARISH—ZWOLLE

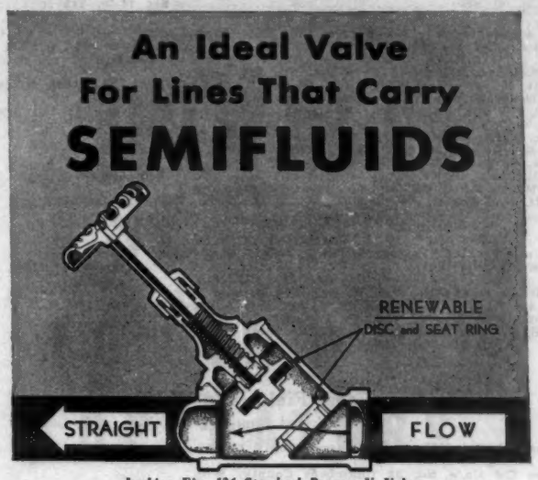
D. D. Alexander's No. 2 Cooper, 660 ft. S, 330 ft. W, NE cor. NW NE Sec. 31-8-11	Testing 2,343 ft.
Baird Bros.' No. 1 Trammell, 660 ft. N, 330 ft. W, SE cor. NE Sec. 30-8-11	W.O.S.R. 2,606 ft.
J. C. Chandler's No. 1 Rains, SW cor. NW Sec. 14-7-11	Drlg. 600 ft.
Cummings Oil Co.'s No. 1 T. M. Phillips, 330 ft. N, 462 ft. W, SE cor. NE	Comp. flowing 100 bbls. 2,429 ft.
Dyer et al's No. 1 McCollister, 330 ft. S and E, NW cor. SW NE Sec. 24-7-12	Derrick.
Feazell & Davenport's No. 1 Aaron, 250 ft. S and E, NW cor. Sec. 32-9-13	Dry and abd. 2,064 ft.
P. A. Flannery's No. 1 Stille, 620 ft. W, 305 ft. N, SE cor. NE SW Sec. 35-8-13	S.D. 1,910 ft.
Investors Prod. Co.'s No. 1 S. J. Williams, 600 ft. E and S, NW cor. Sec. 24-7-11	W.O.S.R. 2,905 ft.
T. E. Kelly's No. 1 McClanahan, 1,000 ft. S, 330 ft. E, NW cor. SW NW Sec. 36-8-11	Washing to bottom 1,230 ft.
Lowery & Green's No. 1 Adair, 330 ft. N and W, SE cor. SE SW Sec. 19-8-11	Set 6-in. 2,232 ft.; tested dry 2,500 ft.
Magnolia Pet. Co.'s No. 2 J. M. Cook, 330 ft. S, 330 ft. W, NE cor. NE SW Sec. 30-8-11	Set 12½-in. 77 ft.; set 6-in. 2,249 ft.
Pelican Nat. Gas Co.'s No. 21 La. Long Leaf Lbr. Co., 660 ft. N, 568 ft. W, SE cor. SE SW Sec. 3-7-11	Dry; W.O. 2,700 ft.
Pelican Nat. Gas Co.'s No. 22 La. Long Leaf Lbr. Co., 330 ft. S and E, NW cor. SW NE Sec. 3-7-11	Set 10-in. 62 ft.; set 7-in. 2,282 ft.
Pelican Nat. Gas Co.'s No. 24 La. Long Leaf Lbr. Co., 330 ft. N and E, SW cor. Sec. 5-7-11	Bailing 2,446 ft.
H. C. Pitts' No. 1 Trammell 330 ft. N and E, SW cor. NW NE Sec. 5-7-11	Derrick.
Pugh-Hickman Drlg. Co.'s No. 1 Stille (No. 1 drilled as No. 2), 330 ft. S and W, NE cor. SE SE Sec. 16-7-11	Dry and abd. 2,697 ft.
Pugh-Hickman Drlg. Co.'s No. 9 Stille, Sec. 16-7-11, 330 ft. S and E, NW cor. SE NW	Rigging up.
People's O. & G. Co.'s No. 1 Raines, 330 ft. N, 100 ft. W, SE cor. NE Sec. 15-7-11	Set 10-in. 45 ft.
H. Reeves et al's No. 1 Ponder, 330 ft. N and W, SE NW Sec. 16-7-11	Testing 2,675 ft.
Big Oil Co.'s No. 1 Walden, 330 ft. N and E, SW cor. NW NE Sec. 23-8-11	Derrick.
L. J. Tillery's No. 1 Sabine Lbr. Co., 300 ft. S, 330 ft. W, NE cor. Lot 3, La. Nava grant, Sec. 5-7-11	Location.
C. H. Tuttle's No. 4 Byrd, 300 ft. S, 930 ft. E, NW cor. NW NW Sec. 7-7-10	Derrick.

Arkansas

UNION COUNTY—URBANA

Wilson & Chapman's No. 1-B Hadley, Sec. 3-18-13	O.W.D.D.; drlg. plug; T.D. 2,650 ft.

JENKINS VALVES ARE ALWAYS MARKED WITH THE "DIAMOND"



Jenkins Fig. 124 Standard Bronze Y Valve

OILS and other viscous fluids, will flow through a Jenkins Y Valve with minimum loss of head. The design of this valve provides for a straight-through passage practically in line with the pipe. There are no sharp bends to cause high fluid friction.

A Jenkins Y Valve also offers a decided advantage where valves must be located in cramped places. The spindle at a 45 degree angle makes the hand wheel easily accessible, even where the valve is installed very close to tanks, holders, walls, etc.

Fitted with a Jenkins Renewable Seat Ring, this valve is easier to keep tight and requires practically no attention. Regrinding is never necessary. The sectional view shown above is a Fig. 124 Jenkins Standard Bronze Y or Blow-Off Valve. Other patterns include Extra Heavy Bronze, Special Hard Bronze, and Standard and Extra Heavy Iron Body with Bronze mounting, screwed or flanged. Stocks are carried by good supply houses everywhere. For further details, write for Bulletin 104, or consult the new Jenkins Catalog.

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Jenkins

BRONZE IRON STEEL

VALVES

Since 1864

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Mississippi

HINDS COUNTY

Atkins & Hightower's No. 1 Woodland Hills, 400 ft. W, 427 ft. N, SE cor. NW NE Sec. 36-6-1e ..... Testing 2,162 ft.
United Gas Public Service Co.'s No. 1-C McLaurin, Sec. 19-6-2e, C SE ..... Set 16-in. 145 ft.

RANKIN COUNTY

Jas. A. Alexander, tr.'s No. 2 Love Pet. Co., 720 ft. S, 63 ft. E, C Sec. 36-6-1e ..... Set 10-in. 732 ft.; set 6⅝-in. 2,404 ft.
J. A. Alexander, tr.'s No. 1 Love Pet. Co., 600 ft. W, 240 ft. S, NE cor. NW NE Sec. 1-5-1e ..... Comp. 37,000,000 ft. gas 2,377 ft.
Jas. A. Baker et al's No. 1 Hawkins, 440 ft. E, 523 ft. N, SW cor. SE SW Sec. 31-6-3e ..... Set 10-in. 769 ft.; dry and abd. 2,383 ft.
Ferguson, Fuller & Metz' No. 1 Ammons, 350 ft. E and S, NW cor. NW NW Sec. 35-3n-3e ..... Rigging up.
Love Pet. Co.'s No. 2 fee, Sec. 31-6-2e, 835 ft. N, 25 ft. E of SW cor. ..... Drlg. 500 ft.
Muse & Muse's No. 1 Carlton, Sec. 13-5n-1e, 650 ft. E, 725 ft. N, SW cor. ..... Cmtd. 6-in. 2,407 ft.

EAST TEXAS (Border Counties)

MARION COUNTY

Perry et al's No. 1 E. B. Colgin, 300 ft. N and E, SW cor. Martin Noll Sur. ..... Set 10-in. 50 ft.; S.D. 1,400 ft.

PANOLA COUNTY

W. H. Nichols et al's No. 1 S. W. Ray, 330 ft. S of N line, 330 ft. W of E line, W. P. Culver Sur. ..... Set 10-in. 102 ft.
M. H. Robbins et al's No. 1 Alice Williams, 165 ft. N and E, SW cor. 20-ac. tract in Winnie Mann Sur. .. Rigging up.

Gulf Coast Fields and Wildcats

(Continued from Page 46)

Yount Lee Oil Co.'s No. 21 Chambers County (W.O.), Wm. Bloodgood Sur. ..... Drlg. salt 3,390 ft.
Yount Lee Oil Co.'s No. 22 Chambers County, Wm. Bloodgood Sur., 200 ft. from W line, 262½ ft. from N line of lease ..... Drlg. hard sand and lime rock 4,078 ft.

BIG CREEK—FORT BEND COUNTY

Gulf Stream, Inc.'s No. 1 A. H. Theis, 236 ft. E of old No. 4 A. H. Theis in line, Mitchell Young Sur. .... Derrick.

RABBS RIDGE—FORT BEND COUNTY

Humble and Gulf's No. 19-A F. I. Booth ..... Drlg. shale 5,390 ft.
Humble O. & R. Co.'s No. 8-A A. P. George ..... Drlg. shale 4,707 ft.
Humble O. & R. Co.'s No. 11-A Lockwood & Sharp .... Rigging.
Humble O. & R. Co.'s No. 24-A Lockwood & Sharp .... Drlg. shale 1,647 ft.
Humble O. & R. Co.'s No. 23 Lockwood & Sharp, J. Rabb Sur., 1,923 ft. E line, 379 ft. N line of tract . Comp. 51 bbls. per hour; ⅝-in. choke; T.D. 5,285 ft.
Humble and Gulf's No. 10 Meyers, J. Rabb Sur., 987 ft. E of No. 8 ..... Drlg. shale 910 ft.
Texas Co.'s No. 1 Sherman McCall, Samuel Kennedy Sur., 300 ft. N, 132 ft. W of SE cor. lease ..... Set 7-in. csg.; T.D. 5,341 ft.

SUGARLAND—FORT BEND COUNTY

Dewalt Oil Co.'s No. 1 Peterson ..... Derrick.

HIGH ISLAND—GALVESTON COUNTY

Yount Lee Oil Co.'s No. 1-B Broussard & Orme, 126 ft. E of center of W line of M. Dunman Sur. ..... Drlg. sticky shale 5,775 ft.
Yount Lee Oil Co.'s No. 37 Cade, N. Fitzsimmons Sur., 600 ft. S of No. 36 ..... Drlg. shale 515 ft.
Yount Lee Oil Co.'s No. 1-B Cade, N. Fitzsimmons Sur., 488 ft. from S line, 320 ft. from E line ..... Drlg. shale and sand 5,537 ft.
Yount Lee Oil Co.'s No. 17 Smith, M. Dunman Sur., 300 ft. SW of No. 14 ..... No report.

ARIOLA—HARDIN COUNTY

Republic-Houston Oil Co.'s No. 4 Ariola, 800 ft. NE of No. 1, Ariola Sur. ..... Drlg. sand 4,195 ft.

SARATOGA—HARDIN COUNTY

Rio Bravo Oil Co.'s No. 102 Jordit, Jordit Sur. ..... Rig.

SOUR LAKE—HARDIN COUNTY

Arlis Pet. Co.'s No. 1 Sour Lake Bank, H.&T.C. Sur., NW cor. Blk. 11, Sec. 69 ..... Drlg. gumbo 1,720 ft.

HOCKLEY—HARRIS COUNTY

John Deering's No. 4 Warren, T. A. Scully Sur., 250 ft. SW of Texas Co.'s No. 2 Warren ..... Drlg. shale 1,440 ft.

HUMBLE—HARRIS COUNTY

Texas Co.'s No. 24 Koehler (O.W.D.D.) ..... Drlg. lime 2,986 ft.
Wilson Pet. Co.'s No. 1 Cicero (W.O.) ..... Drlg. sticky shale 4,292 ft.

MYKAWA—HARRIS COUNTY

Crown-Framer Oil Co.'s No. 4 Minnetex, Wm. Lovett Sur., 165 ft. S, 120 ft. W of NE cor. Blk. 193 ..... T.D. 6,530 ft.; P.B. to 5,250 ft.; sidetracked and D.D.

PIERCE JUNCTION—HARRIS COUNTY

Czeraux & Mencheon's No. 1 Mencheon ..... Pumping 20 bbls. per day; T.D. 4,051 ft.
Moody Corp.'s No. 4-A Whitehead ..... Drlg. sand 3,410 ft.
Rio Bravo Oil Co.'s No. 19-A Settegast (D.D.), J. Kopman Sur. No. 44, 2,585 ft. S, 285 ft. W of NE cor. of "A" lease ..... Rig up to deepen 4,181 ft.; standing.
White & Ward's No. 1 Bullock ..... Drlg. 3,682 ft.

TOMBALL—HARRIS COUNTY

Humble O. & R. Co. and Magnolia Pet. Co.'s No. 1 Bloecher, J. N. Hooper Sur. (Abst. A-375), 1,050 ft. from S line, 650 ft. from W line ..... T.D. 5,580 ft.; comp. 21 bbls. an hr.; ¼-in. choke.
Humble O. & R. Co.'s No. 2 Bloecher, C. Goodrich Sur., center of 17-ac. tract ..... Location.
Humble Oil & R. Co.'s No. 1 Fredericks, center 18-ac. tract, J. M. Hooper Sur. ..... Rigging.
Humble O. & R. Co. and Magnolia Pet. Co.'s No. 1 Gebhart, Wm. Perkins Sur., 1,399 ft. from N line of survey, and 1,400 ft. from W line of tract ..... Drlg. shale 6,572 ft.
Humble O. & R. Co.'s No. 1 Hendricks, 505 ft. from E line, 466 ft. from N line of 95.7-ac. tract, Wm. Hurd Sur., (Abst. 376) ..... Drlg. shale 5,594 ft.
Texas Co.'s No. 1 H. Martens, C. Goodrich Sur., 666 ft. W, 300 ft. N of SE cor. of lease ..... Drlg. sticky shale 3,977 ft.
Texas Co.'s No. 2 E. Mueller, J. M. Hooper Sur., 653 ft. N and 389 ft. W, SE cor. of lease ..... Cored sand showing oil 5,540-71 ft.

FANNETT—JEFFERSON COUNTY

Black Gold Oil Co.'s No. 1 Jackson, Wm. Smith Sur., 3,766 ft. S line, 117 ft. from W line (356) ..... Derrick.
Gulf Prod. Co.'s No. 7 Burrell, W. H. Smith Sur., 150 ft. W of No. 6 ..... Drlg. sand and shale 2,934 ft.
Gulf Prod. Co.'s No. 13 Thomas, W. H. Smith Sur. .... T.D. 4,190 ft.; sidetrack 4,102 ft.

ESPERSON—LIBERTY COUNTY

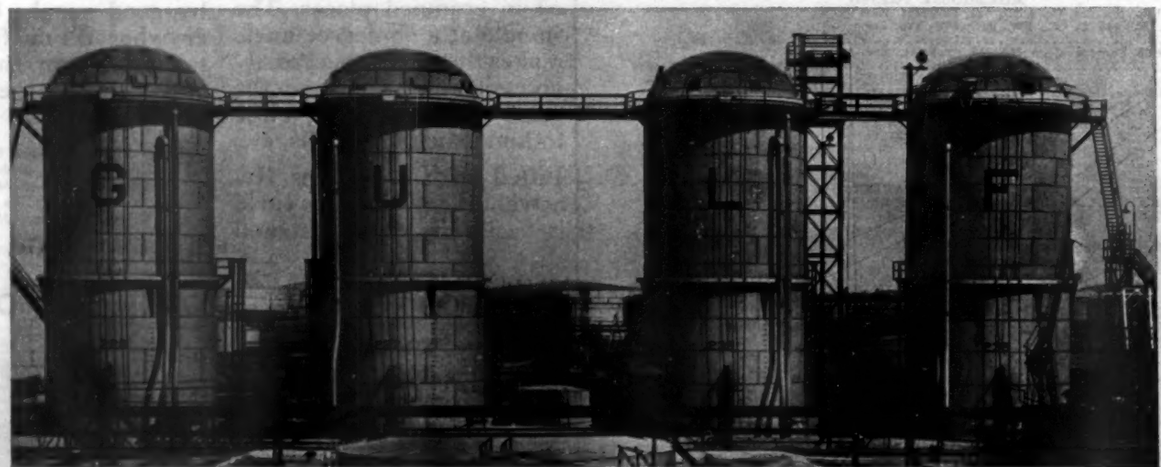
Cranfill-Reynolds Co.'s No. 7 Davis (W.O.), Duncan Sur. . Drlg. sand 5,891 ft.
Cranfill-Reynolds Co.'s No. 11 Moores Bluff, Duncan Sur., 2,100 ft. from N line, 1,069 ft. from E line of 632-ac. tract ..... Sand show oil 4,440 ft.; cmtd. 7-in. csg.

HANKAMER—LIBERTY COUNTY

Gulf Prod. Co.'s No. 2 Crowe & Jacobs, 1,700 ft. E, 1,050 ft. N of SW cor. of H.&T.C. Sur. No. 21 ..... Drlg. shale 5,426 ft.

HULL—LIBERTY COUNTY

Eclipse Oil Co.'s No. 1 Ward, (W.O.) Jesse Devore Sur., 50 ft. S, 50 ft. W of NE cor. Empire G. & F. Co.'s 13 acres ..... Drlg. sand 6,158 ft.
W. B. Flynn's No. 2 Flynn, J. Devore Sur., 25 ft. S No. 1. Drlg. sand 960 ft.



A BATTERY OF FOUR GULF AGITATORS OF THE MOST MODERN TYPE

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As with Gulf's lubricating oils, so it is with all the other Gulf Products. They all live up to a high standard of uniformity *because they are made right.*

GULF

GULF REFINING COMPANY

Houston Prod. Co.'s No. 1 Orgain, J. Devore Sur., 207 ft. W of E line, 50 ft. S of N line, 22.26-ac. lease.. T.D. 4,900 ft.; P.B. to 4,363 ft.; comp. 350 bbls. a day; ¼-in. choke.

Houston Prod. Co.'s No. 2 Orgain, 300 ft. E of No. 1 .. Derrick.

Humble O. & R. Co.'s No. 1 Hannah, 204 ft. N, 312 ft. W, SE cor. of lease ..... Drlg. shale 509 ft.

Miramar Oil Corp.'s No. 3 Phoenix Dev. Co., Jesse DeVore Sur., 400 ft. due E of No. 1 Phoenix Dev. .... Moving in.

Republic Prod. Co.'s No. 149 Dolbear (W.O.), Jesse DeVore Sur., 250 ft. W of No. 6 ..... Drlg. shale 2,912 ft.

The Texas Co.'s No. 8 Hannah (W.O.), Jesse DeVore Sur. ..... T.D. 5,133 ft.; sidetracking; shale 5,376 ft.

LIBERTY FIELD—LIBERTY COUNTY

Ross Oil Co.'s No. 1 Richardson, M. G. White Sur., 120 ft. E of Gulf-Humble's No. 1 Carter ..... Moving in.

CONROE—MONTGOMERY COUNTY

Alpha Oil Co.'s No. 1 Allen, Lemuel Smith Sur., 275 ft. E line, 467 ft. N line ..... Sand 5,133 ft.; comp. 50 bbls. an hr.; ½-in. choke.

Alpha Oil Co.'s No. 10 Keystone Mills, L. Smith Sur., 755 ft. NE of No. 5 ..... Derrick.

Alpha Oil Co.'s No. 3 South Texas ..... Drlg. shale 930 ft.

E. S. Craft et al's No. 1 Granger, T.&N.O. Sur., 467 ft. NW cor. 77-ac. tract (O.W.D.D.) ..... No report.

Gulf Coast Drlg. & Prod. Co.'s No. 12-A Keystone Mills, A. James Sur., 467 ft. from W line, 933 ft. S of No. 11 ..... Drlg. shale 4,990 ft.

Gulf Oil & Sulphur Co.'s No. 2 Springfield, J. S. Springfield Sur., 466 ft. from SW line, 100-ac. lease ..... Derrick.

Harrison & Abercrombie's No. 7 Massey, J. Massey Sur., 852 ft. S of No. 8 ..... Drlg. shale 5,079 ft.

Houston Oil Co.-Tide Water Oil Co.'s No. 8 Hamman, C. B. Stewart Sur., 1,214 ft. from W line, 1,490 ft. from S line ..... Drlg. shale 5,945 ft.

Houston Oil Co.-Tide Water Oil Co.'s No. 9 Hamman.. Set 10¾-in. 955 ft.

Houston Oil Co.-Tide Water Oil Co.'s No. 5 Moore, Lemuel Smith Sur., 466 ft. SW cor. ..... Comp. 125 bbls.; 12 hrs.; ¼-in. choke; T.D. 5,100 ft.

Humble O. & R. Co.'s No. 11 Dobbins ..... Drlg. shale 1,276 ft.

Humble O. & R. Co.'s No. 22 Madeley, Ransom House Sur., 933 ft. NE of No. 10 ..... Comp. 87 bbls. per hour; ½-in. choke; T.D. 5,148 ft.

Humble O. & R. Co.'s No. 23 Madeley, Ransom House Sur., 933 ft. SW of No. 3 ..... Comp. 68 bbls. per hour; ½-in. choke; T.D. 5,151 ft.

Humble O. & R. Co.'s No. 24 Madeley, Ransom House Sur., 933 ft. SE of No. 5 ..... Drlg. shale 4,714 ft.

Humble O. & R. Co.'s No. 25 Madeley, Ransom House Sur., 933 ft. S of No. 15 ..... Drlg. shale 676 ft.

Humble O. & R. Co.'s No. 2 L. B. McComb, Lemuel Smith Sur., 625 ft. N line, 500 ft. E line ..... Shale 5,127 ft.; cmtd. csg.

Humble O. & R. Co.'s No. 5 L. B. McComb, L. Smith Sur., 650 ft. N line, 1,200 ft. W line ..... Drlg. shale 270 ft.

Humble O. & R. Co.'s No. 7 L. B. McComb, L. Smith Sur., 525 ft. SW, 550 ft. NW of E cor. of lease .... Comp. 81 bbls. per hour; ½-in. choke; T.D. 5,130 ft.

Humble O. & R. Co.'s No. 32 Moore, L. Smith Sur. .... Comp. 92 bbls. per hour; ½-in. choke; T.D. 5,127 ft.

Humble O. & R. Co.'s No. 34 Moore, L. Smith Sur., 933 ft. SW of No. 21 ..... Rig.

Humble O. & R. Co.'s No. 37 Moore, L. Smith Sur., 735 ft. NE of No. 21 ..... Drlg. shale 4,626 ft.

Humble O. & R. Co.'s No. 38 Moore, L. Smith Sur. .... Drlg. sand 5,097 ft.

Humble O. & R. Co.'s No. 42 Moore, L. Smith Sur., 550 ft. SE right angles out of most easterly NE cor. of lease ..... Comp. 75 bbls. per hour; ½-in. choke; T.D. 5,128 ft.

Humble O. & R. Co.'s No. 43 Moore, L. Smith Sur. ..... Drlg. shale 919 ft.

Humble O. & R. Co.'s No. 41 South Tex. Dev. Co., Theodore Slade Sur., 933 ft. SW of No. 4 ..... Shale 5,154 ft.

Humble O. & R. Co.'s No. 47 South Tex. Dev. Co., Theo. Slade Sur., 933 ft. NE of No. 9, and 933 ft. NW of No. 2 ..... Sand 5,156 ft.

Humble O. & R. Co.'s No. 1-D South Tex. Dev. Co., 344 ft. E of center of W line of T.&N.O. Sur. No. 15.. T.D. 5,153 ft.; P.B. to 5,060 ft., swabbing.

Humble O. & R. Co.'s No. 2 J. Wiggins, T. M. Wiggins Sur., 330 ft E line, 600 ft. S line ..... Drlg. shale 1,585 ft.

Malta Oil Co.'s No. 2 Tex-Osage, G. Harris Sur., 37a ft. S line, 466 ft. N line of lease ..... Comp. 5,000,000 ft. gas; T.D. 5,147 ft.

Mortex Oil Corp.'s No. 1 J. C. Young, Wilson Strickland Sur., 231 ft. from E line, 131 ft. from S line of 2½ acres ..... Drlg. shale 5,097 ft.

Showers & Moncrief's No. 2-A Dunn, 466 ft. N line, 430 ft. E line, Wilson Strickland Sur. ..... Drlg. shale 3,500 ft.

R. D. Simonlton, rec., J. W. Watson Sur., center S 20 acres of Coffield 40 acres ..... Comp. 95 bbls. per hour; ½-in choke, 5,117 ft.

R. D. Simonlton, rec.'s No. 3 Hooper, J. W. Watson Sur., C of N 20 acres of 60-ac. lease ..... Drlg. shale 1,317 ft.

Southland Oil Co.'s No. 5 Cummings, Wilson Strickland Sur., 766 ft. E line, 284 ft. S line of lease .... Comp. 45 bbls. per hour; ½-in. choke, 5,104 ft.

Strake Pet. Corp.'s No. 2 Etheridge, S. H. Bryan Sur., 467 ft. E line, 3,350 ft. S line lease ..... Derrick.

Strake Pet. Co.'s No. 3 Keystone Mills, S. H. Bryan Sur.. Rigging.

Strake Pet. Corp.'s No. 2 Keystone Mills ..... Comp. 160 bbls. per hr.; ½-in. choke, 5,096 ft.

Sun Oil Co.'s No. 15 Foster, J. Bricker Sur. ..... No report.

Sun Oil Co.'s No. 16 Foster, 467 ft. S and E lines, J. Bricker Sur. ..... No report.

Sun Oil Co.'s No. 18 Foster, J. Bricker Sur. ..... No report.

Sun Oil Co.'s No. 22 Foster, J. Bricker Sur., 1,358 ft. S, 1,612 ft. E of lease and survey line ..... Derrick.

Tide Water Oil Co.'s No. 12 Dean, W. C. C. Lynch Sur., 330 ft. out of NW cor. ..... T.D. 6,020 ft.; abd.

Tide Water Oil Co.'s No. 3 Eichlitz, L. Smith Sur., 467 ft. N line, 310 ft. E line ..... Drlg. shale 5,054 ft.

Tide Water Oil Co.'s No. 9 Krohn, H. Bryan Sur., 467 ft. W line, 1,266 ft. N line and 797 ft. S line ..... Drlg. shale 5,074 ft.

Tide Water Oil Co.'s No. 26-A Lewis, C. B. Stewart Sur., 1,175 ft. W line, 3,101 ft. N line ..... T.D. 5,136 ft.; washing.

West Prod. Co.'s No. 1 Foster Lbr. Co., 467 ft. N line, 650 ft. W line, Sec. 3, T.&N.O. Sur. ..... Drlg. shale 5,010 ft.

PORT NECHES—ORANGE COUNTY

Texas Co.'s No. 1-B Polk, Jacob Beaumont Sur., 150 ft. NE cor. ..... Rigging.

Texas Co.'s No. 1-B Polk, 150 ft. NE cor. Jacob Beaumont Sur. ..... Rigging.

Texas Co.'s No. 2-B Polk, 695 ft. N, 150 ft. S of NE cor. of N. Jacob Beaumont Sur. ..... Derrick.

The Texas Co.'s No. 1 Orange Nat. Bank, 150 ft. out of NW cor of lease, Jacob Beaumont Sur. ..... T.D. 4,799 ft.; comp. 206 bbls.

LIVINGSTON—POLK COUNTY

Gist Oil Co.'s No. 1 Kavanaugh Collins, A. Viesca Sur., 150 ft. NE, 150 ft. NW, SE cor. G. P. Reid's 740-ac. tract ..... Drlg. shale 4,303 ft.

Shell Pet. Corp.'s No. 2 Davis & Holmes, A. Viesca Sur., 485 ft. N, 376 ft. W of NE cor. of Jim Duff 35-ac. tract ..... T.D. 4,438 ft.; reworking.

Skelly Oil Co.'s No. 1 Sanders, 755 ft. N of E line, 305 ft. S of N line, Sanders' 40 acres, A. Viesca Sur. ..... Drlg. shale 4,000 ft.

GRETA—REFUGIO COUNTY

Atlantic Oil Prod. Co.'s No. 1 O'Brien, E. H. Winfield Sur., Blk. 5, 466 ft. from S line in center of block E and W ..... Comp. 460 bbls. P.L. oil; two ¼-in. chokes; T.D. 4,401 ft.

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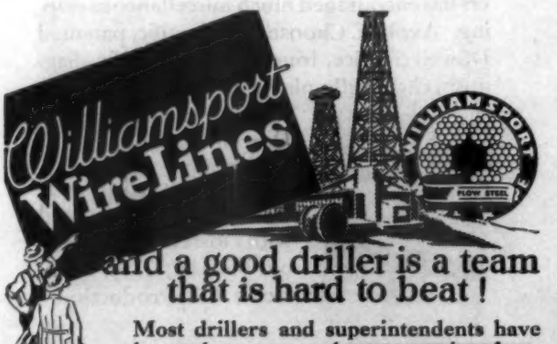

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Atlantic-Alamo's No. 1 J. J. O'Brien, E. H. Winfield Sur., 466 ft. out of NW cor. 167-ac. lease ..... Cored sand 4,382 ft.; showing oil.
Atlantic-Alamo's No. 1 J. M. O'Brien, E. H. Winfield Sur., 466 ft. out of SE cor. 213-ac. tract ..... Drlg. sand 4,372 ft.
Atlantic Oil Prod. Co. and Heyser & Heard's No. 2 O'Brien ..... Derrick.
Blanco Oil Co.'s No. 2-B J. M. O'Brien, E. H. Winfield Sur., 466 ft. out of SE cor. 50 acres ..... Drlg. shale 4,362 ft.
Circle W Oil Co.'s No. 2 O'Brien, E. H. Winfield Sur., 1,989 ft. from N line, 466 ft. from E line of 212-ac. tract ..... Comp. 404 bbls.; ¼-in. choke; T.D. 4,401 ft.
Dash Prod. Co.'s No. 2 O'Brien, N. S. Crunk Sur., 466 ft. S of N line of center E and W ..... Setting 7-in. csg. 4,347 ft.
Dash Prod. Co.'s No. 3 O'Brien, N. S. Crunk Sur., 645 ft. of W line, 301 ft. at right angles R.R. ..... Drlg. shale 2,791 ft.
Floboots Oil Corp.'s No. 1-C O'Brien, E. H. Winfield Sur., 466 ft. SE cor. Lot 14 ..... Drlg. shale 1,315 ft.
Floboots Oil Corp.'s No. 1 J. F. B. Heard, 466 ft. E of W line, 522 ft. N of S line, 150-ac. tract, M. J. Ximines Sur. ..... Drlg. shale 1,640 ft.
Greta Oil Corp.'s No. 3 O'Brien, E. H. Winfield Sur., 150 ft. out of SW cor. of tract ..... Drlg. sand 4,390 ft.
Greta Oil Co.'s No. 2 B. O'Brien, 933 ft. E of No. 1 B.. Rigging.
Greta Oil Corp.'s No. 3-B O'Brien, 1,154 ft. E of No. 2-B, 460 ft. S of N line, 460 ft. NW of E line ..... Rigging.
Greta Oil Corp.'s No. 4-B O'Brien, 466 ft. NW of E line, 1,516 ft. E of W line, E. H. Winfield Sur. .... Drlg. shale 1,836 ft.
Heyser & Heard's No. 2 O'Brien, E. H. Winfield Sur., 466 ft. NW cor. 50-ac. tract, Blk. 6 ..... Drlg. shale 4,357 ft.
Edwin M. Jones' No. 1 A. O'Brien ..... Drlg. shale 4,124 ft.
Edwin M. Jones' No. 2 O'Brien, E. H. Winfield Sur., Blk. 4, 466 ft. from N line in center E and W ..... Derrick.
Edwin M. Jones' No. 2-B O'Brien ..... Drlg. shale 4,369 ft.
Edwin M. Jones' No. 3-G O'Brien ..... Derrick.
Nesral Oil Co.'s No. 1-A Wilson Heard, M. J. Ximines Sur., 330 ft. out of NE cor. lease ..... Drlg. shale 5,791 ft.
Nesral Oil Co.'s (Pearson) No. 1 Thomas O'Conner, 330 ft. SE of railroad ..... Derrick.
Nesral Oil Co.'s No. 1 Ira Heard, M. J. Ximines Sur., 330 ft. out of NW cor. of 25-ac. tract ..... Standing 1,900 ft.
Nesral Oil Co.'s No. 2 O'Connor, 1,586 ft. SE of No. 1 and 466 ft. W of E line (R/A to EL) ..... Rigging.
Rutherford and Atlantic Oil Prod. Co.'s No. 1 O'Brien, Crunk Sur. ..... Drlg. shale 4,348 ft.
Southwest Pet. Corp.'s No. 2-A O'Brien, E. H. Winfield Sur., 466 ft. NW cor. 25-ac. tract ..... Derrick.
Southwest Pet. Corp.'s No. 2-B O'Brien, E. H. Winfield Sur., 466 ft. from R.R. right of way, 933 ft. SW of No. 1-B ..... Comp. 250 bbls.; ¼-in. choke; T.D. 4,401 ft.
Southwest Oil Corp.'s No. 1 C. O'Brien, N. S. Crunk Sur., 420 ft. W of E line, 345 ft. S of N line of 22.7 acres ..... Setting tubing 4,400 ft.
Texas Gulf Prod. Co.'s No. 1 J. M. O'Brien, J. A. Peoples Sur., 466 ft. SW cor., Blk. 3 ..... Drlg. shale 1,277 ft.
Texas Gulf Prod. Co.'s No. 2 J. M. O'Brien, J. A. Peoples Sur., 466 ft. NW cor., Blk. 3 ..... Moving in material.
Texas Gulf Prod. Co.'s No. 1 J. M. O'Brien, J. H. Winfield Sur., 466 ft. NS line, center E and W, Blk. 13 ..... Moving in material.
United Prod. Co.'s No. 8 Fox est., Wm. Hews and L. Brown Sur., 2,956 ft. N line, 787 ft. E line ..... Drlg. shale 3,636 ft.

CLAY CREEK—WASHINGTON COUNTY

Sun Oil Co.'s No. 9 Clay, 600 ft. NE of No. 1 Clay, J. F. Perry Sur., 757-ac. tract ..... Drlg. shale 1,750 ft.

BOLING—WHARTON COUNTY

Asher et al's No. 2 Rogers, S. F. Austin Sur., 655 ft. NE, 115 ft. NW of S cor. W. G. Reagin & Son's tract. Drlg. rock 825 ft.

SOUTH LOUISIANA FIELDS

ASSUMPTION PARISH

Barnsdall Oil Co.'s No. 1 Williams, 330 ft. out of NE cor. Sec. 38-14s-14e ..... T.D. 7,465 ft.; coring 6,500 ft.

VINTON—CALCASIEU PARISH

Gulf Ref. Co.'s No. 7 J. W. Gardner, 308 ft. E, 550 ft. N, SW cor. SE NE Sec. 33-10s-12w ..... Drlg. gumbo 556 ft.
Morris-McLean's No. 12 Gray (W.O.) ..... Drlg. salt 2,939 ft.
Wilson Broad's No. 10 Wilson Strip, 650 ft. N, 379 ft. E, SW cor. SE NE Sec. 33-10s-12w ..... Derrick.

CAMERON MEADOWS—CAMERON PARISH

Burton-Sutton Oil Co.'s No. 1 School Land, 500 ft. W, 20 ft. N, SE cor. Sec. 16-14s-13w ..... Drlg. lime and shale 5,980 ft.

CALCASIEU PARISH

Fred Oil Co.'s No. 1 Farszt, 566 ft. N, 300 ft. W, SE cor. NW SE Sec. 26-8s-10w ..... Derrick.
Union Sulphur Co.'s No. 1 Stout, 1,327 ft. N, 1,167 ft. W of SE cor. Sec. 39-8s-8w ..... Drlg. sand 7,560 ft.

CHOCTAW—IBERVILLE PARISH

Standard Oil Co. of La.'s No. 5 Myrtle Grove, 1,700 ft. N, 200 ft. W, SE SW cor. SW Sec. 52-9s-11e ..... Rigging.

EVANGELINE PARISH

J. E. Leadau's No. 2 Vidrine, 280 ft. W, 400 ft. S, NE cor. Sec. 47-3s-3e ..... Drlg. gumbo 1,740 ft.

GUEYDAN—VERMILLION PARISH

Pure Oil Co.'s No. 5 Alliance Trust Co., 525 ft. from N line, 530 ft. from W line of Sec. 34-11s-1w ..... Drlg. shale 4,662 ft.
Pure Oil Co.'s No. 1 Grady Lee-Humble, 2,031 ft. E. 225 ft. N of NW cor. Sec. 34, in Sec. 27-11s-1w.... Drlg. shale 1,130 ft.
Pure Oil Co.'s No. 4 Mulvey, 1,721 ft. from N line, 2,515 ft. from W line of Sec. 34-11s-1w ..... Drlg. sandy shale 4,287 ft.

LAFOURCHE PARISH

Gulf Ref. Co.'s No. 1 B. Community, 1,625 ft. E, 365 ft. NW Sec. 26-21s-22e ..... Rigging.
Barnsdall Oil Co.'s No. 1 Harang, Lot 6, in Twp. 17s-20e. Fishing 2,900 ft.

LAKE BARRE—TERREBONNE PARISH

Texas Co.'s No. 9 Lake Barre-L.L.&E., 4,013 ft. S, 305 ft. E of NW cor. Sec. 30-21s-20e in Sec. 36-21s-19e ..... Drlg. anhydrite 2,574 ft.
Texas Co.'s No. 22 State-Lake Barre, 150 ft. northerly from No. 18 ..... Drlg. lime and shale 2,713 ft.

LAKE WASHINGTON—PLAQUEMINES PARISH

Freeport Sulphur Co.'s No. 14 Cockrell & Morrow ..... Drlg. limestone 1,310 ft.
Humble O. & R. Co.'s No. 3 La. State, Twp. 20s-26e, 2,920 ft. N, 19 ft. E of station ..... Rigging.

LOCKPORT—CALCASIEU PARISH

Magnolia's No. 9 Farquaher, 200 ft. N, 150 ft. E of SW cor. NE SE Sec. 8-10s-9w (O.W.D.D.) ..... Drlg. shale 5,265 ft.
Magnolia Pet. Co.'s No. 4-A Watkins fee, 825 ft. E, 200 ft. N of SW cor. NW NE Sec. 9-10s-9w ..... Drlg. shale and lime 3,400 ft.

HACKBERRY—CAMERON PARISH

Gulf Ref. Co.'s No. 12 Irwin, 885 ft. N, 518 ft. E of SW cor. Sec. 44-12s-8w ..... Drlg. hard shale 6,763 ft.
Pop Oil Co.'s No. 1 Yount Lee, 3,996 ft. W, 100 ft. N of SE cor. Sec. 19-12-10w ..... Drlg. shale 3,630 ft.
Texas Co.'s No. 10-B State, 1,000 ft. E, 200 ft. N of NE cor. Sec. 13-12s-10w ..... Drlg. sand 7,272 ft.
Union Sulphur Co.'s No. 7 Gulf Land-Humble lease, 1,010 ft. N, 661 ft. E of SW cor. Sec. 13-12s-10w.... Drlg. sandy shale 5,978 ft.

IOWA—CALCASIEU AND JEFF DAVIS PARISHES

Barnsdall Oil Co.'s No. 1 Heyd, 330 ft. SW cor. of E½ SW Sec. 7-9s-6w ..... Rigging.
Magnolia Pet. Co.'s No. 4 Waite, Sec. 12-9s-7w, 330 ft. from E line, 660 ft. S of No. 3 ..... Drlg. sticky shale 6,911 ft.
Magnolia Pet. Co.'s No. 2 Willett, 990 ft. N, 330 ft. E of SW cor. NW Sec. 7-9s-6w ..... Set csg. 7,014 ft.
Shell Pet. Corp.'s No. 4 Heyd, 2,123 ft. W, 1,310 ft. S of NE cor. Sec. 13-9s-7w ..... T.D. 4,929 ft.; abd.

Shell Pet. Corp.'s No. 5 Heyd, 225 ft. S of NW cor. of Sec. 18-9s-7w, and 225 ft. W of E line of Sec. 13..Drlg. shale 5,813 ft.
Shell Pet. Corp.'s No. 6 Heyd, 660 ft. S line, 660 ft. W line of lease, Sec. 18-9s-7w ..... Set csg. 1,301 ft.
Shell Pet. Corp.'s No. 3 Stafford, 330 ft. from W line and 265 ft. from S line of NW Sec. 18-9s-6w ..... Drlg. sticky shale 6,471 ft.
Shell Pet. Corp.'s No. 1 Tuten, 265 ft. S, 330 ft. W of NE cor. SW Sec. 13-9s-7w ..... Temp. S.D. 1,337 ft.

JEFFERSON DAVIS PARISH

B. D. Finley et al's No. 1 Clarphy Lognion, SW NW Sec. 23-10s-4w, 800 ft. N, 50 ft. W of SW NW..... Drlg. sand 5,400 ft.
Humble O. & R. Co.'s No. 2 Devilbiss, 1,850 ft. S, 350 ft. W of NE cor. Sec. 14-9s-4w ..... T.D. 7,843 ft.; sidetracked 7,100-7,581 ft.; fishing.

JENNINGS—ACADIA PARISH

Yount Lee Oil Co.'s No. 13 Houssiere-Latrielle, Sec. 47-9s-2w, 300 ft. E of No. 12 ..... No report.

EAST BATON ROUGE PARISH

British-American Oil Co.'s No. 1 Louisiana, 2,750 ft. NE NW cor. Sec. 79, and 1,700 ft. N of NE Sec. 79, in Sec. 6-8s-1e ..... Drlg. gumbo 1,950 ft.

LEESVILLE—LA FOURCHE PARISH

Texas Co.'s No. 7 L.L.E., 3,921 ft. S, 300 ft. W of NE cor. Sec. 27-21s-22e ..... Drlg. sand 2,205 ft.

PORT BARRE—ST. LANDRY PARISH

Campbell et al's No. 1 J. E. Jeonsonne, Sec. 7-6s-5e, 30 ft. N of S line in center E and W of 30-ac. tract.. Drlg. shale 2,320 ft.
Texas Co.'s No. 17 Botney Bay, 1,800 ft. S & 8 deg. W, 600 ft. N 82 deg. most southern NE 560 deg. tract, Sec. 4-6s-5e ..... Rigging.

PLAQUEMINES PARISH

Humble O. & R. Co.'s No. 11 Cockrell & Moran ..... Drlg. gumbo 115 ft.
Humble O. & R. Co.'s No. 12 Cockrell & Moran ..... Drlg. shale 1,169 ft.
Humble O. & R. Co.'s No. 15 Cockrell & Moran ..... Comp. 240 bbls.; 1,151 ft.
Southern Sulphur Co.'s No. 1 Bay Adams ..... Moving in.
Texas Co.'s No. 9 Garden Island Bay, 4,791 ft. S, 2,504 ft. W of NE cor. Sec. 104-23s-33e ..... Drlg. sandy shale 1,927 ft.

SORRENTO—ASCENSION PARISH

Union Sulphur Co.'s No. 1 Lacey Frank, 1,640 ft. N, 1,175 ft. W, SE cor. Sec. 16-10s-4e ..... Drlg. 1,400 ft.

STARKS—CALCASIEU PARISH

Gulf Ref. Co.'s No. 11 Lutcher-Moore (D.D.), 1,270 ft. W, 885 ft. N of SE cor. NE Sec. 19-9s-12w..... T.D. 4,377 ft.; W.O.
Union Sulphur Co.'s No. 2 Industrial, 1,245 ft. N, 390 ft. E of SW cor. Sec. 20-9s-12w ..... T.D. 4,832 ft.; junked and abd.

SULPHUR—CALCASIEU PARISH

Union Sulphur Co.'s No. 723 fee (W.O.), 1,179 ft. N, 640 ft. W of SE cor. SW NW Sec. 29-9s-10w ..... T.D. 4,273 ft.; P.B. to 3,079 ft.; comp. 350 bbls. a day ½-in. choke 3,191 ft.
Union Sulphur Co.'s No. 757 fee, Sec. 29-9s-10w, 300 ft. W of C section ..... No report.
Union Sulphur Co.'s No. 783 fee, Sec. 29-9s-10w ..... Salt 5,117-5,761 ft.; sidetracking at 4,252 ft.; sand 4,503 ft.
Union Sulphur Co.'s No. 781 fee, 1,768 ft. W, 726 ft. N of C Sec. 29-9s-10w ..... Derrick.

ST. BERNARD PARISH

Southern Sulphur Co.'s No. 1 Lake Lery, 400 ft. W, 500 ft. N, SW cor. Sec. 28-13s-15e ..... Drlg. shale 212 ft.
Southern Sulphur Co.'s No. 1 State Lake Bargne, 850 ft. N, 230 ft. E, SE cor. Sec. 33-13s-15e ..... Drlg. shale 645 ft.

ST. LANDRY PARISH

Gaunch Synd.'s No. 1 Lewis, 300 ft. N and E of SW cor. NW NE Sec. 29-5s-6e ..... Derrick.
H. H. Hotchins Lbr. Co.'s No. 1 Whiteman Lbr. Co., 250 ft. out of SW cor. NE Sec. 15-5s-4e ..... W.O.C. 710 ft.

ST. MARTIN PARISH

E. R. Bram et al's No. 1 Toby, 2,600 ft. northwesterly along Bayou Teche from S, or out of SE. cor. of Sec. 105, being point where bayou crosses twp. line, thence northeasterly at right angles 660 ft., in Sec. 105-8s-5e ..... T.D. 5,002 ft. in shale; abd.
Standard Oil Co. of Kansas' No. 1 E. B. Hopkins, Sec. 33-10s-6e ..... Cmtd. 6,010 ft.

TERREBONNE PARISH

Texas Co.'s No. 6 State Bay-St. Elaine, 700 ft. S of No. 3, Sec. 17-22s-18e ..... Drlg. sticky shale 5,035 ft.
Texas Co.'s No. 1 State Bay-St. Elaine, 3,900 ft. N, 2,300 ft. E of SW cor. Sec. 8-22s-18e ..... Moving in.

VERNON PARISH

E. Dawson's No. 1 Deltz Land & Timber Co., C SW SW Sec. 2-1n-11e ..... T.D. 2,820 ft.; sidetrack 2,615 ft; drlg. new hole, sand 2,630 ft.
R. E. Kay et al's No. 1 Willis, 350 ft. N, 400 ft. E, SW cor. SE SE Sec. 32-3-9w ..... Drlg. shale 3,635 ft.

WHITE CASTLE—IBERVILLE PARISH

Shell Pet. Corp.'s No. 7 Wilburn, 625 ft. N 60 deg. W, 1,165 ft. N 29 deg. E, SE of Lot 3, Sec. 9-11s-12e... Set 13⅜-in. csg. 1,205 ft.

TEXAS

MISCELLANEOUS WILDCATS

AUSTIN COUNTY

Turnbull et al's No. 1 Watson, Stephen F. Austin Sur. No. 6, 150 ft. out of SE cor. of 115.6-ac. tract ..... Abd. 5,980 ft.

BRAZOS COUNTY

H. Elliott et al's No. 1 W. F. Odom, near center of 379-ac. tract in SW cor. of Isack Curll Sur. ..... Derrick.
F. H. Scott's No. 1 Klintworth, I. Curd Sur., 300 ft. from N line, 400 ft. from E line ..... Drlg. shale 1,450 ft.

CHAMBERS COUNTY

Mills & Jones' No. 1 Gau, John S. Roberts Sur., 255 ft. W, 1,052.72 ft. S of NE cor. 138-ac. tract ..... Abd. 5,626 ft.
Smith & Lavender's No. 1 McCormick, F. Ludlow Sur., 150 ft. NE cor. ..... Derrick.

COLORADO COUNTY

Humble O. & R. Co.'s No. 1-C Powell, I.&G.N.R.R. Sur., 1,086 ft. E, 573 ft. S of NW cor. Blk. 43..... Rigging.
Weimar Oil Co.'s No. 1 Miller ranch, approx. center H.&T.B. Sur. No. 9 ..... Derrick.

FORT BEND COUNTY

Fresno Oil Corp.'s No. 1 M. T. Wood, T. Gleason Sur., center of 10-ac. tract (Blk. 474) ..... T.D. 5,082 ft.; standing.

GRIMES COUNTY

Cambrian Oil Co.'s No. 1 W. V. Sangster, John Moore Sur., 300 ft. out of most westerly NW cor. of 218-ac. tract ..... Derrick.
Foster et al's No. 1 Quinn, 7,100 ft. from W line, 3,900 ft. from N line of S. F. Austin Sur. ..... Drlg. 56 ft.
Humble O. & R. Co.'s No. 1 Seaton, F. G. Seaton Sur., 260 ft. N and W, 71-ac. tract ..... Rig.

HARRIS COUNTY

Cockburn Oil Corp.'s No. 1 C. Marcus, Wm. Hardin Sur., 1,500 ft. S along E line of 55-ac. tract from Buffalo Bayou and 300 ft. W at right angles ..... Drlg. shale 5,414 ft.
H. B. Jordan's No. 1 Cochran, J. L. Jordan Sur., 1,950 ft. S line, 1,930 ft. E line ..... Standing 2,045 ft.
McCarthy et al's No. 1 Harrison, 500 ft. S, 500 ft. E of NW cor. of Wm. M. Jones Sur. ..... Abd. 6,715 ft.
Russell et al's No. 1 Burt & Griffith, S. Keely Sur., 200 ft. N line, 200 ft. E of highway ..... Derrick.
Jack Schultz et al's No. 1 West Prod. Co., Geo. Dedrick Sur., 400 ft. W of R.R., 100 ft. N of S line .... T.D. 3,414 ft.; pulling screen to D.D.
H. H. Sloan et al's No. 1 J. Hodges, 200 ft. S, 900 ft. W of intersection of Crosby Huffman, in Frederick Ranken Sur. ..... Moving in.
S. J. Sloan's No. 1 Ellis, 658 ft. from N line, 1,130 ft. from W line of Sec. 22, Geo. Ellis Sur. ..... Drlg. gumbo 2,330 ft.
R. E. Young et al's No. 1 Paddock, J. Cunningham Sur., 300 ft. W of E line of Blk. 41 on line dividing Blks. 46 and 47 ..... Drlg. shale 615 ft.

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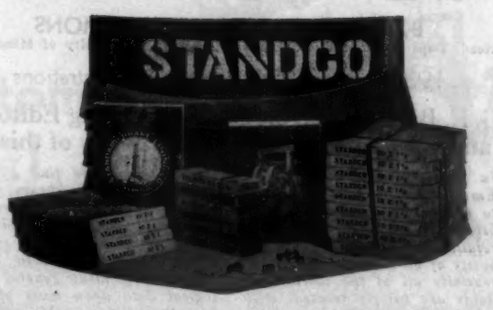

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Head, Department of Geology and Mineralogy, University of Minnesota

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JACKSON COUNTY

Continental Oil Co.'s No. 1 Vincek, V. Garcia Sur., 1,800 ft. W, 200 ft. N of SE cor. of Lot 17, Bennett Subd. ..... Drlg. shale 4,750 ft.

JASPER COUNTY

Turnball & Erwin's No. 1 Green, W. B. Green Sur., 2,269.3 varas S, 857 varas W of NE cor. ..... Rigging.

Venga Oil Co.'s No. 1 Garland Smith, Elijah Isaacs Sur., 650 varas E of SE cor. S. Cruse Sur. ..... Rig.

JEFFERSON COUNTY

Sun Oil Co.'s No. 1 Paggi, 990 ft. W, 1,610 ft. N of SE cor. of T.&N.O. Sur. No. 32 ..... Sand 6,003-23 ft.; cmtd. 9⅝-in. csg. 5,976 ft.

LIBERTY COUNTY

Hamill & Smith's No. 1 Peavey, 2,083 ft. N, 330 ft. W of SW cor. J. S. Johnson's 319-ac. tract ..... Rigging.

Thomas et al's No. 1 A. Ercke, 600 ft. E of W line, 2,350 ft. N of S line, A. H. Ercke Sur. in Reason & Green Sur. ..... Standing 2,920 ft.

J. K. Seale, tr.'s No. 1 T. W. Finley, A. B. Hardin Sur., 330 ft. out of SW cor. of 25-ac. tract ..... Standing 5,000 ft.

Yount Lee Oil Co.'s No. 1 E. W. Boyt, H.&T.C. Sur., Sec. 17, 300 ft. from S line, 2,440 ft. from E line of section ..... Abd. 9,865 ft.

MATAGORDA COUNTY

Continental Oil Co.'s No. 1 Baker, 400 ft. out of SW cor. Lot 17, Robbins & Middle Subd., J. W. Criswell Sur. ..... Drlg. shale 6,480 ft.

Oils Consolidated, Inc.'s No. 1 Hawkins, Daniel McCarthy Sur., 1,240 ft. NE, 350 ft. NW of S cor. .... Derrick.

United North & South Dev. Co.'s No. 1 Unit 6 (No. 2 Stoddard), 25 ft. each way out of NW cor. of Lot 19, Buckeye Townsite ..... T.D. 7,872 ft.; standing.

United North & South Dev. Co.'s No. 1 Unit 14 (No. 1 Dr. Plotner), 1,210 ft. SE of No. 1 Stoddard and 136 ft. W of right of way of Collegeport branch of St. L.&B.M.R.R., Buckeye ..... Set 216 ft. of 5-in. screen 7,919 ft.; standing.

United North & South Dev. Co.'s No. 1 Unit 25, 1,335 ft. S, 1,000 ft. E of No. 1 Unit 6 ..... Cutting and pulling screen 7,870 ft.; collapsed screen.

MONTGOMERY COUNTY

McElroy Oil Co.'s No. 1 McWhorter, T. J. Nichols Sur., 390 ft. N of center of W 1,000 acres of McWhorter's 3,000-ac. farm ..... Drlg. gumbo 2,648 ft.

L. C. Thorpe's No. 1 Sutherland, 2,450 ft. E line, 350 ft. N line of C. McRay Sur. ..... Drlg. shale 1,760 ft.

Stanolind O. & G. Co.'s No. 1 Theis, J. H. Edwards Sur., 466 ft. W line, 466 ft. S line ..... Derrick.

POLK COUNTY

Dick Schwab's No. 1 Kirby & West, Geraldus Thomas Sur., 1,000 ft. N of N line of P. A. Sublett Sur., and 2,000 ft. W of E line of Thomas Sur. ..... Spudding.

C. E. Stewart's No. 1 Stephenson, E. Stevenson Sur. (Abst. 761), 1,633 ft. from N line, 920 ft. from W line of 217 acres ..... Rig.

REFUGIO COUNTY

Humble O. & R. Co.'s No. 8 O'Connor, 13,350 ft. N of S line of lease and 13,727 ft. W of E line of Florentine Rios Sur. ..... Abd. 3,387 ft.

Humble O. & R. Co.'s No. 9 O'Connor, 4,380 ft. SW of No. 1 O'Connor ..... Moving in.

Texas Co.'s No. 1 Rooke, J. M. Aldritte Sur., 7,500 ft. S 53 deg. W, 850 ft. 37 deg. W of N cor. Sur. ..... Drlg. shale 1,578 ft.

SAN JACINTO COUNTY

Piedmont Oil Co.'s No. 1 Foster Lbr. Co., 500 ft. out of NW cor. of G. Taylor Sur. ..... Abd. 4,475 ft.

Turnball & Erwin's No. 1 Love, Love Sur., 330 ft. out of SW cor. ..... Drlg. shale 550 ft.

TYLER COUNTY

Texas Crude Oil Co.'s No. 1 Creswell, B. Enloe Sur., 300 ft. S of NE cor. of survey and 400 ft. W of E line ..... Drlg. shale 2,000 ft.

VICTORIA COUNTY

Gulf Prod. Co.'s No. 4 Keeran, Martin DeLeon Sur., 2,320 ft. N 41 deg. 43 min. W, parallel to NE line of lease from No. 1 ..... Abd. 6,380 ft.

Stoneleigh O. & G. Co.'s No. 1 Zimmer, R. Manchola Sur., 1,007 ft. SW line, 645 ft. SE line ..... T.D. 2,884 ft.; P.B. to 2,664 ft. to test oil showing.

The Texas Co.'s No. 6-A McFaddin, 5,600 ft. from NE line, 250 ft. from SE line of A. J. Gray ..... Gas sand 3,039-49 ft.; pumping wtr. and mud into sand to kill pressure.

The Texas Co.'s No. 7 McFaddin, 6,600 ft. S 15 deg. W, 450 ft. N 75 deg. W at right angles from the NE cor. of the A. J. Gray Sur. ..... T.D. 1,176 ft; blowing gas and mud.

WALLER COUNTY

Franklin et al's No. 1 A. C. Blumberg, John Baker Sur., 466 ft. out of NE cor. of most northerly 100-ac. tract ..... Drlg. shale 3,575 ft.

Hobson & Moore's No. Peters, Justo Llendo Sur., 590 ft. W of creek and 1,144 ft. N of S cor. ..... Drlg. shale 2,960 ft.

WASHINGTON COUNTY

George W. Strake's No. 1 Henry Wehmeyer, M. Byrd Sur., 3,000 ft. from W line, 500 ft. from N line of 599.50-ac. tract ..... No report.

WHARTON COUNTY

Boggs & Hammond's No. 1 C. T. Kountze, Morris & Cummings Sur., 1,250 ft. S line, 2,750 ft. E line .... Drlg. gumbo 1,160 ft.

Nabers et al's No. 1 Lurker, 210 ft. out of SE cor. of N½ SW Sec. 58, E.T.R.R. Sur. ..... Washing to bottom 5,026 ft.

Pure Oil Co.'s No. 1 W. Garrett, Sec. 28, 4,456 ft. SE, 1,690 ft. NE of W cor. ..... Drlg. shale 4,870 ft.

Pure Oil Co.'s No. 1 A. J. Wilder, T. W. Hurd Sur., 509, 2,575 ft. SE, 1,690 ft. NE from W cor. of Sec. 28. Drlg. sand and shale 4,145 ft.

Pure Oil Co.'s No. 1 Stewart, 2,419 ft. NW, 1,650 ft. NE of S cor. of Sec. 35, Morris & Cummings Sur. ..... Fishing 3,067 ft.

Pure Oil Co.'s No. 1 Chas. T. Kuntze, 2,185 ft. from NW line, 467 ft. from SW line, Sec. 27, Morris & Cummings Sur. ..... Drlg. shale 6,896 ft.

Pure Oil Co.'s No. 1 W. H. Lancaster, Morris & Cummings Sur., Sec. 23, 1,650 ft. NW, 1,600 ft. SW of E cor. of section ..... Drlg. sand 4,500 ft.

Pure Oil Co.'s No. 1 Wallace Houston, 858 ft. SE of NW line and 1,690 ft. NE of SW line, Sec. 23, (T. W. Heard Sur.) ..... Spudding.

Pure Oil Co.'s No. 1 Isaac Weaver, J. M. Brownson Sur., Sec. 22, 1,650 ft. out of N cor. of section .... Drlg. shale 4,345 ft.

Smith, McDannald and Pure Oil Co.'s No. 1 B. M. Yeamans, 330 ft. out of N cor. of B. M. Yeamans Sur., Abst. 913 ..... Drlg. shale 5,100 ft.

Smith & McDannald and Shell Pet. Corp.'s No. 1 Ridgeway, 1,980 ft. from S, 660 ft. from W of NE cor. Sec. 8, H.&T.C. Sur. ..... T.D. 7,607 ft.; drill pipe stuck.

Wildcat Operations in Southwest Texas

(Continued from Page 51)

Fred A. Perrenot's No. 1 Russell, 750 varas from NE line, 54 varas from NW line of 500-ac. tract in Rodriquez Sur. ..... T.D. 1,315 ft.; standing.

Perry, Woodie & Boler's No. 1 Milburn, 450 ft. from N line, 150 ft. from E line of 103-ac. tract in S. C. I. Perez Sur., 15 miles SW from San Antonio ..... Set surface csg.

Earl A. Post's No. 3 J. F. and F. X. Bilharts, 150 ft. from N and E lines of S 200 acres of 385-ac. tract in F. Boles Sur. ..... Moving in rig.

Roe & Day's No. 2 City Nat'l. Bank, 150 ft. from N and W lines of tract in I. Perez Sur. No. 15 ..... T.D. 200 ft.; drlg.
C. A. Smith's No. 1 Goeth ..... T.D. 460 ft.; drlg. shale.
C. A. Smith's No. 1 Palfrey ..... Showing some oil.
C. A. Smith's No. 1 Henry Lamb, 750 ft. from N and E lines of Lamb farm, in de la Garza grant ..... T.D. 480 ft.; drlg.
F. E. Tegler's No. 1 Brackenridge, 575 ft. from S line, 2,284 ft. from W line of tract in Maria Gertrudis de Alaniz Sur. ..... T.D. 1,221 ft.; fishing for drill stem.

BLANCO COUNTY

Blanco Development Co.'s (McGee) No. 1 A. J. Dittmar, 1,320 ft. from S line, 150 ft. from W line of George Evans Sur. No. 68, 4 miles NW of Johnson City ..... T.D. 717 ft.; fishing.
Isham et al's No. 1 Lester ranch, 200 varas from N and E lines of Antonio Bandrand Sur., 3 miles NE from Johnson City ..... T.D. 351 ft.; drlg.

CALDWELL COUNTY

Judge R. L. Batts' No. 2 Roebuck, 2,400 ft. from NE line, 1,200 ft. from SE line of tract in Arthur Swift Sur. ..... T.D. 2,269 ft.; testing show of oil in chalk.
E. L. Hope and Joe Cole's No. 1 Mike August, 150 ft. from NE line, 165 ft. from NW line of tract ..... T.D. 1,960 ft.; coring Taylor marl; showing gas
F. L. Thomson's No. 2 Lawler, 150 ft. from NW line, 450 ft. from SW line of road in J. H. Lawler 134-ac. tract in James Berry Sur. ..... Moving in rig.

DE WITT COUNTY

C. B. Bunte, Inc.'s No. 1 Emil Buckhorn, SE cor. of 120-ac. tract in Andrew Lockhart Sur., 2 miles SW from Lindeneau ..... Set surface csg.
L. G. Wade's No. 1 fee, 6 mi. S from Yoakum, 620 ft. from NW line, 160 ft. from SW line of 35-ac. tract in Lavina Dunbar Sur. ..... T.D. 2,257 ft.; S.D.

DIMMITT COUNTY

Ed Anglin's No. 1 Dr. A. J. Fitch, 930 ft. from NW line, 2,100 ft. from SW line of Sec. 4 in F. Proctor Sur. ..... T.D. 1,551 ft.; abnd.

DUVAL COUNTY

T. J. Conway and C. A. Campbell's No. 1 W. K. Hoffman, 300 ft. from NW line, 1,650 ft. from NE line of Sur. No. 114 ..... T.D. 2,756 ft.; comp. 30,000,000 to 40,000,000 ft. gas; not gauged.
DeSoto Oil Co.'s No. 2 Wood-Welder, 660 ft. E of No. 1 (950 ft. from N line, 2,640 ft. from W line of Sur. No. 211 ..... T.D. 2,502 ft.; P.B. to 2,156 ft.
Eaton et al's No. 1 Herbst, 1,650 ft. from E line, 330 ft. from S line in S.A.&M.G. Sur. No 71 ..... Comp. water well; getting ready to spud in.
O. W. Killam's No. 1 Wood-Welder, 9,260 ft. from E line, 3,540 ft. from S line of Sur. No. 102 ..... T.D. 2,405 ft.; coring.
S. S. & H. Oil Co.'s No. 1 Hunter, 330 ft. W of CEL of J. Poitevant Sur. No. 515 ..... T.D. 1,965 ft.; standing.
W. A. Smith's No. 1 Holzapfel, west central part of lease in 900 ft. W of NE cor. of Sur. 344 and 150 ft. from N line of Sur. No. 42 ..... T.D. 398 ft.; standing waiting on water.
Almer Stewart's No. 1 Parr, 350 ft. from E line, 200 ft. from S line of 500-ac. tract in Poitevent Sur. No. 185 ..... T.D. 350 ft.; drlg.
Whitting's No. 1 Duval County Ranch Co., 1,511 ft. from S line, 2,143 ft. from W line of Blk. 21, of Sur. No. 196 ..... T.D. 450 ft.; S.D.

EDWARDS COUNTY

Love and Evans' No. 1 Steve Brown, 660 ft. from N and E lines of Sec. 66, G.W.T.&P.R.R. Sur., 15 miles W of Rock Springs ..... T.D. 461 ft.; drlg.

FRIO COUNTY

Amerada Pet. Corp.'s No. 1 Frank Doering, 34 ft. from W line, 1,700 ft. from S line of Tract No. 7 in Maria Louisa Carranza Sur. No. 302 ..... T.D. 4,470 ft.; drlg.
J. E. Greenlee's No. 3 Burns, 150 ft. from W line, 1,800 ft. from S line of SE of 160-ac. tract, Castro Sur. No. 128 ..... T.D. 2,365 ft.; standing.

GILLESPIE COUNTY

Powers et al's (Nixon-Dore) No. 1 Andrew Lindig, 18 mi. E of Fredericksburg ..... T.D. 1,194 ft.; fishing.

GUADALUPE COUNTY

Clint Lanier's No. 1 L. D. Hill, 450 ft. from NW line, 1,450 ft. from NE line of George Allen Sur. ..... T.D. 610 ft.; S.D.

HIDALGO COUNTY

Carl & Johnston's No. 1 Doughty, 187 ft. from S and E lines of Lot 11, Blk. 5 of Subd. of Indios Ranch Sur. in N. Hidalgo ..... T.D. 3,040 ft.; S.D.
Chancellor & Hall's No. 1 Garcia Land & Cattle Co., 150 ft. from W line of Porcion 42 and 150 ft. N of old Military Highway ..... T.D. 3,187 ft.; drill stem test; showed 28 thribbles oil and salt water.
Maxwell & Young's No. 1 King, 175 ft. from N and E lines of Lot 8, Blk. 16, Alamo tract ..... T.D. 875 ft.; drlg.

JIM HOGG COUNTY

Brooklyn Oil Co.'s No. 1 De La Garza, 660 ft. from N and W lines of Blk. 87 of Pippins Subd. of Randado Grant Sur. ..... T.D. 255 ft.; standing.
D. C. DeWitt's No. 1 A. G. Lopez, 3,475 ft. from W line, 425 ft. from N line of Sur. No. 196 ..... T.D. 2,200 ft.; drlg.

KENDALL COUNTY

E. W. Martin's No. 1 Houston, in F. Wright Sur. ..... T.D. 1,498 ft.; drlg. black shale.

KERR COUNTY

J. E. Anderson's No. 1 J. D. Witt, 1,320 ft. from N line, 1,320 ft. from W line of Sec. 1,933, in Hamilton Sur., 4 miles S of Center Point ..... T.D. 1,885 ft.; standing in shale and sand.
Evans & Gant's No. 1 Love, 660 ft. S of S line of Sur. 1,597, 1,320 ft. from W line of Sur. 1,594 ..... T.D. 4,060 ft.; rigging up to deepen.
Van Duyn & Moore's No. 1 Nowlin, 2,000 ft. from E line, 2,200 ft. from N line of Jas. R. Bettner Sur. No. 99 ..... T.D. 950 ft.; underreaming 5⅝-in. csg.

LA SALLE COUNTY

Pacific Gulf Oils and C. B. Bunte's No. 1 Lastinger, C of NE of Sec. 507 ..... T.D. 2,150 ft.; showing gas and coring.
W. H. Wallace's No. 1 H. C. Yeager, 150 ft. from S and E lines of Sur. No. 95 ..... T.D. 1,605 ft.; standing.

LIVE OAK COUNTY

Coquat, O'Neill & Phillips' No. 3 Sanger, 2,930 ft. from SW line, 330 ft. from SE line of Sur. No. 350 ..... T.D. 2,302 ft.; drlg.
J. H. Durbin's No. 2 Marbach, 1,000 ft. from S line, 3,200 ft. from W line of S. Hays Sur. ..... T.D. 900 ft.; abnd.
Holland Oil Co.'s No. 1 T. J. Lynn, 175 varas from E line, 54 varas from N line of 272-ac. tract in Sur. No. 171 ..... Drlg. below surface csg.
M. P. Howard's No. 1 Alexander, 2,700 ft. from N line, 150 ft. from E line of 500-ac. tract, 3 miles NE of Calliham ..... T.D. 1,223 ft.; drlg. in.

McMULLEN COUNTY

McDowell & Vierson's No. 1 Jefferson, 330 ft. from N, 990 ft. from W line of 640-ac. tract in Sur. No. 92 .. Drlg. 2,594 ft.; abnd.
Whisenant & Trenchard's No. 1 Martin, 1,650 ft. to E line, 2,310 ft. to S line of Sur. No. 108 ..... Rigging up.

MILAM COUNTY

Ed Clark et al's No. 1 Thomas Graves, 250 ft. from SW and NW lines of Jackson Hall Sur. ..... T.D. 890 ft.; shut down in shale.
Clark et al's No. 1 Hoppe, 450 ft. from NE line and 450 ft. from SE line of E. Hoppe 60-ac. tract in Juan Jose Acosta Sur. ..... T.D. 1,320 ft.; fishing.

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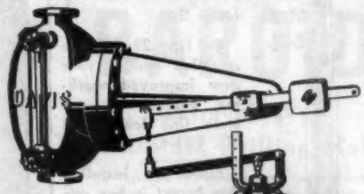

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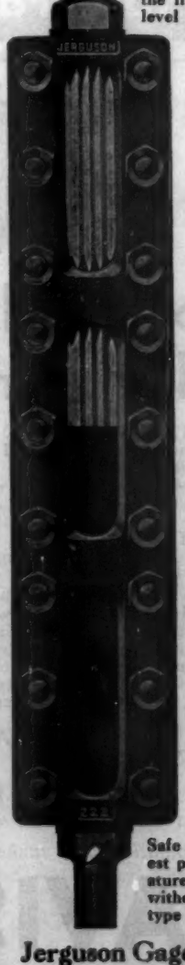

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SAN PATRICIO COUNTY

George W. Scroggs' No. 1 Collins, 1,040 ft. from NE line, 700 ft. from SE line of Blk. 36, E. J. McGloin Sur. ..... T.D. 3,756 ft; changing to heavier rig.

STARR COUNTY

S.&B. Oil Co.'s No. 1 Crown Brick & Tile Co., 1,800 ft. S of State Highway No. 4 and 580 ft. from W line of Porcion 87, near La Puerta ..... T.D. 4,560 ft; fishing.
W. P. Chancellor's No. 1 A Guerra, 26,000 ft. from S line, 2,600 ft. from E line of Share No. 6 of San Jose Grant Sur., NE cor. of county ..... T.D. 2,960 ft.; drlg.
Great Plains Oil Co.'s No. 1 Sanchez, 660 ft. from W line, 330 ft. from S line of SE NW of Sur. No. 344 .. T.D. 2,350 ft.; drlg.
Goodwin & Yantis' No. 1 Kelsey Bass, 150 ft. from S and E lines of Blk. 8, Coast C. & G. Subd. of Secs. 2 and 3, Porcions 86-87 ..... Rigging up for 3,500-ft. test.
Goodwin & Yantis' No. 1 Seabury, 150 ft. from S and W lines of Sec. 107, Share No. 1, Porcion No. 107.... T.D. 2,095 ft.; drlg.; depth reported an error.
Goodwin and Yantis' No. 2 Walker, 3,000 ft. from S line, 2,000 ft. from W line of Sur. No. 767 ..... Steel derrick.
K. D. Harrison's No. 1 Garcia, 4,018 ft. from S line, 330 ft. from W line of Share 215, Porcion 90, jurisdiction Camargo ..... Spudded in.
Myers, Sullivan & Jenkins' No. 1 Starr County Cattle Co., 330 ft. from N line, 330 ft. from W line, Blk. 62, Porcion 89, Share 60 ..... Derrick.
R. D. Perkins & Hoffman's No. 1 E. E. Peffler, 3,000 ft. from W line, 2,480 ft. from S line of Sur. 933.. T.D. 55 ft.; spudded in; standing.
W. R. Shankle's No. 1 Garcia, 150 ft. from SW and NW lines of Blk. 33, Subd. N of Porcion No. 90.... T.D. 2,300 ft.; drlg.

TRAVIS COUNTY

Franklin et al's No. 1-A Reimers, 1,300 ft. from SE line, 1,400 ft. from most southerly SW line of Sur. No. 35 ..... T.D. 500 ft.; standing.
Watson, Johnson & Brady's No. 2 Brady ..... T.D. 1,312 ft.; drlg.
Weaver & Osborn's No. 1 Will Reinhardt, 300 ft. from NW line, 1,200 ft. from NE line of Will Reinhardt 100-ac. tract in William Lewis, Jr., Sur. 2.... T.D. 248 ft.; standing.

UVALDE COUNTY

Evans & Thompson's No. 1 Farris, 400 ft. from S and W lines of 635-ac. tract near center of John J. Hammond Sur. ..... T.D. 460 ft.; in chalk.
John Roberts' No. 3 Kincaid ..... T.D. 385 ft.; standing.

WEBB COUNTY

E. B. Madden's No. 1 Bruni, 150 ft. from E line, 330 ft. from S line of 105-ac. tract in Sur. No. 2,241.... T.D. 60 ft.; set surface csg.
Danvers & Harrison's No. 1 Benavides, 2,490 ft. from N line, 2,497 ft. from S line of Sur. No. 669 ..... T.D. 2,486 ft.; abnd.
Edwin M. Jones' No. 2 Callaghan, 330 ft. from S and E lines of C.C.S.D.&R.G.N.G. R.R. Sur. No. 1,211.... Dropped till work starts.
Merle Gunby's No. 1 A. M. Bruni, 1,252 ft. from W line, 328 ft. from S line of Sur. No. 857 ..... Spudded in.
Grey Oil Corp.'s No. 1 A. S. Billings, 2,310 ft. from N line, 320 ft. from W line of Blk. 1, C.C.S.D.&R.G. N.G. Sur. No. 13 ..... T.D. 2,567 ft.; abnd.
Will Ohlhausen's No. 1 Moses Jones, 275 varas from E line, 516 varas from S line of 100-ac. tract in Sur. No. 1,640 ..... T.D. 850 ft.; standing.

WILLIAMSON COUNTY

Alexander Drlg. Co.'s No. 1 J. & G. Kreig ..... T.D. 1,550 ft.; fishing.
McLean et al's No. 2 R. C. Miller, 300 ft. to S line, 100 ft. to W line of tract, B. Manlove Sur. ..... T.D. 2,212 ft.; drlg.
Wilson, Worley & Moore's No. 1 Mrs. M. E. Olive ..... T.D. 41 ft.; S.D.

ZAPATA COUNTY

J. C. Charver's No. 1 Bustamente, 330 ft. from N and E lines of 24-ac. tract in Share 24 of Las Comitas grant ..... T.D. 1,242 ft.; drlg
French Oil Corp.'s No. 1 Garza, 2,500 ft. from E line, 330 ft. from S line of Sur. 149 ..... T.D. 1,370 ft.; drlg.
Hamilton, Brower & Crow's No. 1 Slator, 1,111 ft. from SW line, 1,980 ft. from SE line of Blk. 1, Subd. of Slator ranch in J. V. Borrego grant ..... T.D. 1,069 ft; standing.
Circle W. Oil Co.'s No. 1 M. Garza est., 623 ft. from NW line and 699 ft. from SW line of Blk. 30, C. A. Dougias Subd. of Charco de la India grant ..... T.D. 1,079 ft.; drlg.
J. P. Doyle's No. 1 I. Ramirez, 150 ft. from NW and SW lines of Blk. 15, Share 1, Porcion 13 ..... Spudded in and S.D.
Sarah Poppas' No. 1 Juan V. Cuellar, Jr., 150 ft. from NE and SE lines of Blk. 3, Sur. 2 of Poppas Subd. of Pur. 34 ..... T.D. 812 ft.; drlg.
A. C. Savey et al's No. 1 Flores, 150 ft. from NW line, 200 ft. from NE line of Blk. 8, Share 1 of P. A. Richer Subd. of Porcion No. 36 ..... T.D. 2,404 ft; standing.
Stevens & Brown's No. 1 Alexandro Garcia, 660 ft. from SW line, 660 ft. from NW line of Blk. 6, Stevens & Brown Subd. of W 700 acres, Charco Redondo grant, A. Garcia tr. 16 miles SE of Zapata ..... T.D. 1,250 ft.; abnd.
Arthur H. Wray's No. 1 Gopher Trust Est., 300 ft. from NW line, 1,020 ft. from SW line, Blk. 14, Sur. 1, Fullerton Subd., Share 8, in J. V. Borrego Grant Sur. ..... T.D. 1,408 ft.; drlg.

ZAVALA COUNTY

Zavala O. & G. Co.'s No. 1 Gates, 1,320 ft. from N line, 1,320 ft. from E line of Hooper & Wade Sur. No. 13 .. T.D. 6,054 ft; hole cleared; standing.

Southwest Texas Proven Areas

Week Ending September 16

CEDAR CREEK POOL—BASTROP COUNTY

Company, well, farm name, section and block—	Remarks
Marts & Beavens' No. 4 Reyes, 300 ft. SE of No. 3 and 825 varas from NW line, 1,330 varas from SW line of 235-ac. tract in Addison Lytton Sur.	T.D. 1,680 ft. in lime; showing oil.
Joe Mills' No. 1 Noss, 400 ft. to E line, 150 ft. S of 75-ac. tract in Addison Litton Sur.	T.D. 1,874 ft.; bailing sand 1,768-86 ft.; tested dry.

NORTH DALE POOL—BASTROP COUNTY

Chiquita Oil Co.'s No. 3 Harris, 600 ft. SW of No. 1 or 60 ft. from Bee Creek and 140 ft. from W line of 40-ac. tract in John Maxmilian Sur. ..... Moving in rig.
Marts & Beavens' No. 3 Riddle, 635 ft. from NW line, 2,075 ft. from SW line of John Maxmilian Sur. .... Bldg. derrick.
Marts & Beavens' No. 3-A Riddle, 200 ft. from NW line, 1,100 ft. from NE line of John Maxmilian Sur... T.D. 1,150 ft.; drlg. shale.
Ogden & Reed's No. 1 Spradlin, 300 ft. from S line, 200 ft. from E line of 113-ac. tract in Grey Sur. .. Rigged up; standing.
Floyd Dodson's (and Muckelroy) No. 1 Duran, 45-ac., 300 ft. from NE line, 1,440 ft. from SE line of 100-ac. tract, Flynt Sur. ..... T.D. 2,434 ft.; abnd.
Ogden & Reed's No. 1 Talley, 150 ft. from NW line, 1,350 ft. from SW line of John Maxmilian Sur. .... T.D. 2,127 ft.; abnd.
Ogden & Reed's No. 1-A C. L. Riddle, 1,225 varas from NE line, 288 varas from NW line of Maxmilian Sur. ..... T.D. 2,276 ft.; abnd.

TULETA POOL—BEE COUNTY

Conservative Oil Co.'s No. 1 Coutts, 165 ft. from W line, 150 ft. from N line of SW SW SW Sec. 2, Blk. 7, Ragsley Subd., Miller Chittam ranch, J. M. Uranga grant ..... T.D. 4,323 ft.; reinstated; to drill deeper.

ECKERT POOL—BEXAR COUNTY

Eckert & Son's No. 7 Brehm, 313 ft. W of No. 6 on 93-ac. tract in Buquor Sur. No. 55 ..... T.D. 687 ft.; comp. 6 bbls. daily.
F. H. Eckert & Co.'s No. 8 Louis Brehm, 550 ft. from W line, 150 ft. from S line of 93-ac. tract in P. L. Buquor Sur. ..... T.D. 556 ft.; drlg.

J. F. Harrison's No. 1 F. Gembler, 150 ft. from NW line, 460 ft. from NE line of 83-ac. tract in J. Montez Sur. ..... T.D. 435 ft.; no report.
Swearingen Oil Co.'s No. 14 Halbardier, 700 ft. N of No. 3 on 93-ac. tract ..... T.D. 572 ft.; drlg. shale.
Swearingen Oil Co.'s No. 15 Halbardier, 2,350 ft. from W line, 850 ft. from N line of Jose Maria y Perez Sur. ..... Rigged up.

WEBSTER POOL—CALDWELL COUNTY

C. J. Webster Oil & Gas Co.'s No. 1 Fulps, 150 ft. from E line, 225 ft. from S line of tract in John A. Neill Sur. ..... T.D. 2,005 ft.; drlg.

EAST COLE FIELD—DUVAL COUNTY

Cole Petroleum Co.'s No. 1 S. Benavides, 150 ft. from SW line, 347 ft. from SE line, Blk. 347, Myrtle E. Hill Subd., Mariana Arispe grant ..... Derrick.

NORTH GOVERNMENT WELLS POOL—DUVAL COUNTY

Al Buchanan et al's No. 4 Ellison, 330 ft. from N and W lines of (40-ac.) NE of NW of Sur. No. 44 ..... Spudded in.
Central Producers, Inc.'s No. 7 Tuck & Johnson, 330 ft. from S and W lines of SE SW of Sur. No. 43 ..... Rigging up.
A. L. Edington's No. 2 Lundell, 200 ft. from N and E lines of S½ SE Sec. 48 ..... T.D. 2,334 ft.; testing sands.
Hester Bros.' No. 1 fee, 330 ft. from S and E lines of NE of Sur. No. 47 ..... T.D. 200 ft.; fooling around.
Humble Oil & Refining Co.'s No. 12 Hahl, 1,650 ft. from N line, 330 ft. from W line of Sur. No. 74 ..... T.D. 2,310 ft.; swabbing.
Humble Oil & Refining Co.'s No. 13 Hahl, 3,670 ft. from S line, 330 ft. from W line of E half of Sur. No. 360.. Rigging up.
Humble Oil & Refining Co.'s No. 14 Hahl, 4,350 ft. from S line, 330 ft. from W line of E half of Sur. No. 360.. Rigging up.
Magnolia Pet. Co.'s No. 2 Hahl-Southland, 268 ft. from N line, 185 ft. from W line of Sur. No. 61 ..... T.D. 2,279 ft.; comp. 15,000,000 ft. gas.
Navarro Oil Co.'s No. 8 Hahl, 2,960 ft. from S line, 330 ft. from W line of W½ of Sur. No. 360 ..... T.D. 3,265 ft.; comp. 70 bbls. daily.
Navarro Oil Co.'s No. 17 Hahl, 990 ft. from N line, 330 ft. from E line of Sur. No. 360 ..... T.D. 2,309 ft.; comp. 30 bbls. hrly.
Reynosa Oil Co.'s No. 3-A Duval County Ranch Co., 330 ft. from S line, 990 ft. from W line of N½ of SW¼ of Sur. No. 362 ..... T.D. 2,271 ft.; comp. 20 bbls. hrly.
Reynosa Oil Co.'s No. 3-B Duval County Ranch Co., 990 ft. from N line, 330 ft. from E line of E½ of SE¼ of Sur. No. 363 ..... Rigging up.
Smith & Storey's No. 5 Lundell, 150 ft. from N and E lines of S half SW of Sur. No. 48 ..... Rigging up.
Sun Oil Co.'s No. 5 Welderkehr, 330 ft. from N and E lines of Sur. No. 361 ..... Drlg. 1,600 ft.

NORTH KOHLER FIELD—DUVAL COUNTY

O. W. Killam's No. 1 Akin, 165 ft. from N and W lines of W half SW of Sur. No. 184 ..... T.D. 1,800 ft.; drlg.

SARNOSA POOL—DUVAL COUNTY

L. W. Capps' No. 6-A Duval County Ranch Co., 330 ft. from SW line, 1,320 ft. from NW line of W¼ of Sur. No. 574 ..... Standing.
S. R. C. Oil Co.'s No. 9 Duval County Ranch Co., 4,-330 ft. from S line, 375 ft. from E line of Sur. 393.. T.D. 1,759 ft.; comp. 150 bbls. dly.
Sun Oil Co.'s No. 6 Cuellar, 720 ft. from SW line, 330 ft. from SE line of E¼ of Sur. No. 576 ..... T.D. 2,420 ft.; 75 bbls. daily.
Texas Co.'s No. 5 W. C. Riggs, 1,667 ft. from S line, 330 ft. from E line of E½ of NW¼ of Sur. No. 46.. T.D. 2 304 ft.; comp. 60 bbls. dly.

PALANGANO POOL—DUVAL COUNTY

Southern Alkali Co.'s No. 2 Jane Schallert, 1,600 ft. from S line, 2,050 ft. from E line of Sur. No. 81.... T.D. 1,008 ft.; standing.

CHITTIM POOL—MAVERICK COUNTY

Rycade Oil Corp. et al's No. 2 Chittim, 1,530 ft. from N line, 350 ft. from W line of Sec. 157, I.&G.N.R.R. Sur., Blk. 7 ..... T.D. 200 ft.; S.D.

JACOB POOL—McMULLEN COUNTY

Loma Oil Co.'s No. 16-A Jacob, 2,360 ft. from W line, 1,410 ft. from S line G.H.&H.R.R. Sur. ..... T.D. 520 ft.; drlg.
Loma Oil Co.'s No. 15-A Jacob, 660 ft. N of No. 14 Jacob ..... T.D. 950 ft.; set csg.; drill in Saturday.
Longhorn Oil Co.'s No. 3-A Lark, 450 ft. from N line, 150 ft. from W line of Blk. 14, of Subd. of Lark land in E. W. B. Scrugham Sur. ..... T.D. 991 ft.; coring for Pettus sand.
Kennon & Stephenson's No. 1 Lark, 150 ft. from N and W lines of Blk. 15, subd. of Lark land in E. W. B. Scrugham Sur. ..... T.D. 1,033 ft.; set csg.; W.O.C.
J. S. Suttle's No. 1 Lark, 150 ft. from N and W lines of Blk. 16, in E. W. B. Scrugham Sur. ..... T.D. 1,030 ft.; installing pump.

AGUA DULCE FIELD—NUECES COUNTY

H. F. Grimm's No. 1 Bluntzer, 300 ft. from W line, 2,100 ft. from S line of 639-ac. tract in Elliff Sur. .. Location.
Sullivan et al's No. 1 McCoy, 330 ft. from W line, 3,830 ft. from S line of Section 3, Palo Alto Sur. ..... Rigged up.

CUEVITAS POOL—STARR COUNTY

Sun Oil Co.'s No. 3-A Guerra, 5,940 ft. from NW line, 1,000 ft. from SW line of Share 14-B in Las Cuevitas grant ..... T.D. 2,460 ft.; drlg.

LOS OLMOS POOL—STARR COUNTY

Tarver & Nance's No. 8 Kelsey Bass, 150 ft. from N and W lines of SW SE Sec. 7, Pors. 75, 76, 77, jurisdiction Camargo ..... T.D. 382 ft.; drlg.

LAUREL FIELD—WEBB COUNTY

Montex Oil Co.'s No. 1 C. O. Haines, 150 ft. from S and E lines of Sur. 234 ..... Rigging up.

MOCA POOL—WEBB COUNTY

Moca Oil Co.'s No. 7 Duval County Ranch Co., 285 ft. from W line, 1,835 ft. from N line of Blk. 22, Share 3 of Zapata County School Land Sur. ..... T.D. 871 ft.; coring.
R. D. Semmes' No. 3 Duval County Ranch Co., 150 ft. from N line, 1,340 ft. from E line of Blk. 22, Share 3, Zapata County School Land Sur. ..... T.D. 390 ft.; comp. 100 bbls.

ESCOBAS POOL—ZAPATA COUNTY

Texas Co.'s No. 33 Whitehead, 2,265 ft. from SE line, 19,518 ft. from SW line of Cerrito Blanco grant.... T.D. 1,185 ft.; bailing.
S. R. & C. Oil Corp.'s No. 2-C Trevino, 330 ft. from S line, 330 ft. from W line of N½ of Blk. 13, in Sur. No. 412 ..... Location.

JENNINGS POOL—ZAPATA COUNTY

United Prod. Corp.'s No. 11 Measles, 3,483 ft. from NW line, 16,500 ft. from SW line of Cerrito Blanco grant ..... T.D. 2,649 ft.; drlg.

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VALUABLE INFORMATION FOR OIL MEN

is to be found in The Oil and Gas Journal each week pertaining to all phases of the Petroleum Industry.

Keep abreast of the times by reading it each week.

The OIL and GAS JOURNAL
Tulsa, Okla.

NEW AND IMPROVED EQUIPMENT

OCT Blowout Preventer Is Made With Two Main Parts

Type D blowout preventer, having only two main parts when assembled, is announced by Oil Center Tool Co., of Houston, Tex.

The main body is on the casing during the entire drilling job, and the packing unit remains in a handy position on the derrick floor. If pressure threatens, the packing unit is latched around drill pipe, which is slightly lowered to allow a steel shoulder on the packing unit to pass the clamp under the shoulder of the main body eccentric band. The eccentric band on the main body of the preventer springs open weight of pipe sufficient to permit passing of the packing unit shoulder and then clamps back under tension of the spring. The higher the pressure, the tighter the seal effected by the rubber packing expanding against the main body.

Within the rubber packing unit is built a steel ring with bolts protruding out of the top of the wear-ring for bolting down and tightening in case a small leak develops after the packing unit is set down. The rubber then acts as packing in a packing gland.

This new preventer is made of cast chrome nickel steel and has been tested to 5,000 pounds pressure.

ANNOUNCE AIR-COOLED ENGINE

Designed especially to supply the demand for an air-cooled engine in the compressor, truck, tractor and general industrial field, a 6-cylinder power plant, developing 104 brake horsepower at 2,600 r.p.m. with 4-inch bore and 5-inch stroke, has been announced by Doman & Marks, automotive engineers, 101 Court Street, Syracuse, N. Y. This engine, the manufacturers say, together with complete lines of 4, 8 and 12-cylinder power plants, which are being designed, will enable any manufacturer of equipment calling for horsepower from 12 to 200, to use air-cooled power, eliminating costly shutdowns due to water cooling trouble caused by freezing, boiling, leakage, and corrosion.

Notes About Trade Literature

The Moon Manufacturing Co., 108 North Jefferson Street, Chicago, has prepared a folder briefly describing Moon lighting plants designed to serve all types of industrial requirements.

—

A bulletin describing the Uni-V-Pump, for the economical pumping of oil wells, is sent to applicants by the Uni-V-Pump Co., 1007 First National Bank Building, Dallas, Tex.

—

"Underneath Belt Motor Driven Lathes" is the title of a new catalog published by the South Bend Lathe Works, South Bend, Ind. These lathes are of the back-geared, screw cutting type, adaptable for the machinery maintenance shop, general repair shop, automotive service shop, engineering laboratory work, factory production and tool room work.

—

Literature may be obtained on request to the American Radiator Co., 40 West Fortieth Street, New York, describing the Arcola, an inexpensive heating outfit suitable for small buildings, garages, construction shacks, watchman houses, offices, etc.

—

The new catalog, No. 23, published by Jenkins Brothers, 80 White Street, New York, not only covers 400 Jenkins valves in a wide range of types and patterns but gives unusually complete details. Features of design and construction are described with information about the metals used. Services, pressures, temperatures and fluids for which the valves are recommended are stated. The book contains engineering data needed where valves are used.

—

A 56-page booklet featuring Universal cast-iron pipe and fittings and Dual-Lok joint cast-iron pipe and fittings, is being mailed by the Central Foundry Co., 420 Lexington Avenue, New York, to those who send for it. The Dual-Lok products have a wide range of usefulness in the oil field and refinery and in gas-distribution lines.

—

The Motorcompressor, a stationary, air-cooled compressor with built-in motor, is the subject of a 16-page booklet obtainable from the Ingersoll-Rand Co., 11 Broadway, New York.

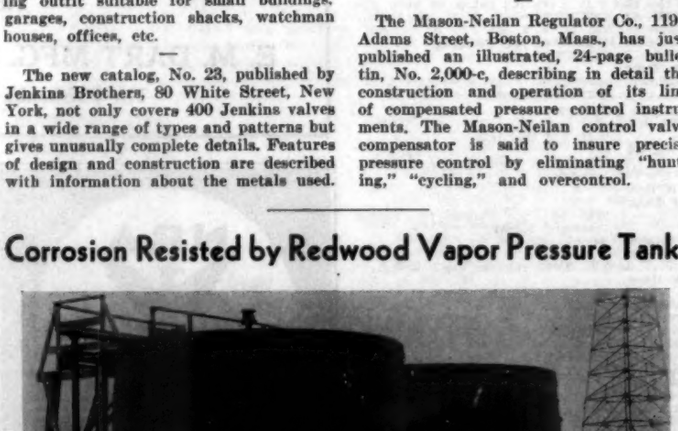
—

A bulletin describing a new close-coupled motor-centrifugal pumping unit is being sent to those who request it by Goulds Pumps, Inc., Seneca Falls, N. Y.

—

The Mason-Neilan Regulator Co., 1190 Adams Street, Boston, Mass., has just published an illustrated, 24-page bulletin, No. 2,000-c, describing in detail the construction and operation of its line of compensated pressure control instruments. The Mason-Neilan control valve compensator is said to insure precise pressure control by eliminating "hunting," "cycling," and overcontrol.

Corrosion Resisted by Redwood Vapor Pressure Tanks



The vapor-pressure wooden tanks developed by Black, Sivalls & Bryson, Inc., Oklahoma City, manufacturer and distributor of tanks, separators, walkways and welded vessels, grew out of years of experiments conducted with a view of producing an oil storage tank that would resist corrosion under severe conditions.

Redwood was selected because of its corrosion resistant qualities and a double-headed, stayed wooden tank was developed. Later a water deck and grooved staves perfected the product. The first one of these was erected six years ago in Borger, Tex., and not one has failed, according to A. H. Black, president.

In addition to their corrosion resistance their insulating and cooling properties are said to have resulted in higher gravity oil and to have decreased paraffin troubles, thus making certain types of treating easier.

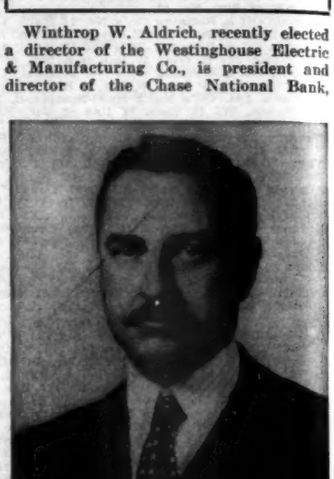
The vapor-pressure wooden tanks are built of carefully selected straight grained, clear redwood. Only the heart wood which grows close to the butt of the large trees in California is chosen, as it is unaffected by hydrogen sulphide, acids, oil or water.

One of the unusual features of the Black, Sivalls & Bryson tanks is the water deck. The head of the tank is kept covered by a 6-inch layer of cooling water, which insulates the already well protected tank, and more important, it feeds water to the grooved staves.

The company has branch offices in Tulsa, Fort Worth, Wichita, Kansas City and Houston. Distributing points are located in Oklahoma, Kansas, Texas, Wyoming, Missouri, New Mexico, Arkansas, Louisiana and Canada.

Men Well Known in the Equipment Field

Winthrop W. Aldrich, recently elected a director of the Westinghouse Electric & Manufacturing Co., is president and director of the Chase National Bank,



WINTHROP W. ALDRICH

American Telephone & Telegraph Co., American Express Co., Discount Corp., Rockefeller Center, Inc., and other companies.

Son of former U. S. Senator Nelson W. Aldrich who for many years served Rhode Island, Winthrop Aldrich was born in Providence in 1885. He received his B.A. degree from Harvard in 1907; then enrolled in Harvard law school, from which he graduated in 1910. He was admitted to the bar in 1912 and practiced law, with the exception of two years' service as a lieutenant in the Naval Reserve during the World War, until December, 1929, when he was elected president of the Equitable Trust Co. which merged with the Chase National Bank in 1930. Mr. Aldrich became president of the Chase National Bank upon the consolidation and, in January, 1933, was elected chairman of the governing board and president.

Oil Industry Offers Many Uses for "Dual-Lok" Pipe

"Dual-lok" joint cast-iron pipe, manufactured by the Central Foundry Co., 420 Lexington Avenue, New York, is recommended for gas distribution lines, oil field and refinery use, filtration plants, air, hot gases and liquids, sewage disposal systems, etc.

It saves the cost of hot lead, cold lead and lead substitutes. Pouring, calking and all joint-making equipment are eliminated. Where installed in a trench no digging of bell holes is necessary. The only tools needed to join the machined lengths are wrenches.

The pipe comes in 2 to 30-inch sizes, with a complete line of fittings. Also cement lined.

—

The General Electric Co. and four of its associated companies have removed their offices in New York to the new General Electric Building, 570 Lexington Avenue at Fifty-first Street.

FIELD PROBLEMS FROM READERS

Edited by Thomas F. Smiley

This department is conducted in order that men connected with the drilling, producing or transporting branches of the petroleum industry may obtain aid in solving problems that confront them in their work. Readers are invited to send questions freely. These questions will be placed in the hands of persons capable of answering them authoritatively, and the answers, based on the best available information, will be published.

Each question should give as much detail as possible, especially if it involves depth of sands, types of sands and operations on adjoining or nearby properties. The source of questions will be considered confidential, and only the initials of the sender will be published. Questions involving patented processes, intricate formulas or estimates of cost cannot be answered. If an immediate answer is important, one will be given by mail when the writer requests it.

In this connection, The Oil and Gas Journal will be glad to publish articles from field men who have devised new methods or improved old ones.

Theory Migration of Oil Caused by Water Currents Untenable

I would like to have explained to me the hydraulic theory of oil movement and accumulation. The limited knowledge I have of the subject is to the effect that underground movement of petroleum is caused in some way by water currents. If you can make the matter clear to me I will appreciate it.—D. E. O.

The hydraulic theory, as it is called, conceives oil and gas as transported and accumulated in pools by circulating or flowing underground water. Gertrude Sober-Fields, in a discussion of this theory, argues that the theory is untenable. She says:

"To justify this theory there must be an enormous water supply and some place for it to go; there must be a water head sufficient to overcome frictional losses and to move oil through small openings. But in capillary openings the flow is very slow. In subcapillary openings Lindgren says the water is held firmly glued to the walls by adhesion—and most openings in shales, slates and clays are subcapillary. If the pressure were sufficient to move the small globules of oil through the sands, it seems probable that it would be sufficient to sweep away also the larger oil masses, so no extensive accumulation could occur. Unconformities, thinning beds, cementation, sealed faults and subcapillary openings hinder, if not prohibit, extensive water circulation in most sediments.

"If hydraulic currents large enough to move globules of oil and bubbles of gas through the sands were now flowing, the displaced salt water would have to issue as enormous salt springs. It is estimated that if water were passing through a sand 50 feet thick, 10 miles wide, and of 20 per cent porosity, with a velocity of 1 foot per day, nearly 400,000 gallons of water would be displaced daily. Such tremendous outflows do not occur.

"If flowing or circulating waters gather oil and gas from wide areas just why should they flow over the restricted highest points and there discard their load of oil?

"'Roof leakage' is suggested as a reason why a great outflow of water does not take place. If such enormous roof leakage occurs, the velocity and hydraulic head of the water remaining in the channel of circulation would appear inadequate to overcome friction and transport the oil. If oil is floated to higher places by water what is to prevent the dissemination of the oil throughout the entire roof area by this same roof leakage?

"Competent authorities state that the meteoric waters do not penetrate below approximately 1,000 feet, and numerous drillings have shown extensive areas where lower strata were dry.

"In the Appalachian Field fresh water is found in appreciable amounts in one or more beds, as a rule, to a maximum depth of 200 to 800 feet. Brackish or salt water occurs below the fresh water at depths ranging from 400 to 3,000 feet. In a few cases salt water was found at greater depth, but in all such cases the amount and head of this water was very small, regardless of the porosity of the containing bed. In many wells open, porous sandstones from 1,000 to 3,000 feet from the surface show no water. The volume and head of water in a given bed decreases with increasing depth from the surface. Examples are numerous in the deeper sands where the supply of water in a given bed entirely disappears when traced down the dip.

"The fact that salt water usually is associated with oil would invalidate the contention that meteoric waters have affected the accumulation. If oil field pressures were due to hydrostatic influence the pressure and flow of wells might be expected to remain comparatively constant but both flow and pressure decrease with time and continued development.

"Oil is found in proximity to sealed faults where water circulation would evidently be prohibited; also in dry synclines indicating accumulation without water agency. The foregoing data tend to disqualify the hydraulic theory of oil migration and accumulation."

No Simple Way Known to Tell Probable Life of Oil Wells

How is the probable life of an oil well determined, particularly wells in Oklahoma?—F. F.

There is no simple answer to this question because the life of a well is dependent upon many interpretations. What one company would consider the economic life of a well might not agree with the time limit set by an individual operator or some other company. The reconditioning of wells also adds materially to the length of the productive life and this again would influence the problem. The age of the field at the time the well is drilled is also an important factor. Structural position and method followed in drilling and completing the well have a bearing upon the production life of the individual well.

If you desire to make a study of the methods followed in estimating future production of oil wells it is suggested that you write to the U. S. Government Printing Office, Washington, D. C., for a pamphlet listing the bulletins on this subject it now has in print. The Oil and Gas Journal of January 26, 1933, contains on article by Frank A. Herald on page 12 on this general subject.

Fast Time Made by Drilling Crew on Well in the Conroe Field

I am interested in the records made by drilling crews on certain wells and I would like to get the record made on a well in the Conroe Field last year. I am unable to give the name of the company that drilled the well or the exact location of the well, but exceptionally fast time is reported to have been made. Can you help me in getting this record?—S. E. N.

It is believed the well to which you refer is that of the Humble Oil & Refining Co.'s No. 12 South Texas Development Co., in the Conroe Field. That well was spudded in on Thursday, September 29, 1932, and on Sunday, October 9, 1932, the hole stood with 7-inch casing cemented on top the sand at 5,065 feet with the bottom of the hole another 15 feet below that. Only 11 days were required for the drilling and cementing of casing. A surface string was cemented between 1,000 and 1,100 feet.

The well conforms to regulations of the Texas Railroad Commission pertaining to hole deviations, which require that no hole on a tract of 20 acres or more shall be more than 5 degrees off vertical.

Character of Viola and Simpson in Asher and St. Louis Pools

What do the Viola and Simpson sands consist of in the Asher and St. Louis Pools of Oklahoma? Do these wells produce much water along with the oil and are the wells flowing or pumping? What is the approximate life of these wells? I would like to know what sort of formation the wells in the Carter Knox Pool of Grady County, Oklahoma, are producing from and whether or not this is long-life production. Is there any possibility of deeper production in this locality and what is the depth of the present producing horizon?—E. F. B.

A. I. Levorsen in an article on "Greater Seminole District" reports: "The Viola limestone is generally used as the datum in mapping Ordovician structure. It is white to gray, coarsely crystalline limestone ranging from 30 to 75 feet in thickness. The upper 5-10 feet is milky white, flaky, and soft. The crystalline limestone is denser, drills hard, and furnishes an excellent casing seat. The Viola limestone contains no dolomite and effervesces strongly in dilute hydrochloric acid.

"In the Seminole district the Simpson formation consists of several members in descending order as follows:

"Dense limestone member.

"First dolomite member.

"'Seminole' sand member ('first Wilcox' of 'Simpson sand' of oil fields).

"Second dolomite member.

"'Wilcox' sand member ('second Wilcox' sand of oil fields)."

"The production from the Asher and St. Louis Pools is being obtained by mechanical means, mostly pumping, and apparently these wells will continue to produce for some time but the length of life will depend largely upon the individual well.

"In these pools part of the production is coming from the Hunton formation and this contains water. As the same wells have penetrated into the second Wilcox and have in some instances found water in that formation and have been plugged back it is rather difficult to answer your question because you refer to Viola and Simpson formations only.

"Oklahoma Geological Survey Bulletin 40 contains the following about Carter Knox Pool, Grady County:

"'There is probably some difference of opinion as to the geologic age during which the producing sands of Grady County were deposited, but after several years of study it is believed that the chief horizon of production lies at or near the base of the Permian, probably in a slight unconformity between the Permian and Pennsylvanian formations. Whether the sands are Permian or Pennsylvanian in age can only be determined by paleontologic study, but up to present time (June, 1930), this method has not been attempted. The thickness of the principal producing horizon indicates that the total oil recovery per acre will be large.'

"The oil and gas production of the important Carter Knox area is from between 1,600 and 2,000 feet.

"Two wells are producing from below this horizon, one from a sand found between 2,785 and 2,800 feet and the other from sand at 2,600 to 2,623 feet. These wells indicate that there is possibility of deeper production for the area. This sand is about 700 feet below the top of the upper producing horizon."

Why Was It Called That?

CHECK

The bank check with which an oil company pays off an employe originated in the Middle Ages, when merchants began giving money for safe keeping to goldsmiths. At first, when desiring to make a payment, the merchants would draw the amount needed. Later they found it more convenient simply to give an order to the goldsmith to pay a specified sum of money out of what they had on deposit. These orders, with modifications, have become our modern bank checks. Similarly, the receipt the goldsmiths gave to the merchants for their deposits of gold evolved into the modern banknote. The word check is derived from the Middle English chec.

NATURAL GAS DEVELOPMENTS

Texas Commission Orders Reduction in Gate Rates

AUSTIN, Tex., Sept. 18.—The Texas Railroad Commission has ordered the Lone Star Gas Co. to reduce its city gate rates at approximately 250 Texas cities and towns from 40 cents to 32 cents per thousand feet.

The commission estimated the reduction would result in an annual saving of approximately $1,400,000 to gas consumers on the Lone Star system, the figure being based on average consumption.

"The commission urgently recommends to the company and its subsidiaries that this saving be passed on immediately to the consumers served by it," the commission stated. "If this is done, the commission believes that it will, to a very large extent, settle a long and bitter rate controversy that has been going on for years between the company and some of the towns in central and northern Texas served by it."

The commission stated it found the 32-cent rate to be fair and reasonable based on a rate valuation of $46,246,617. The company placed a valuation of approximately $72,000,000 on its properties for rate making purposes.

The order affects the city gate rate of some 250 Texas cities and towns, including Dallas, Fort Worth, Wichita Falls, Waco, Cleburne, Abilene, Corsicana, Denison, Bonham, Greenville, Denton, Hillsboro, McKinney, Sherman, Waxahatchie, Arlington, Paris, Mexia, Colorado, Clarksville, Tyler, Terrell, Gainsville, Eastland, Cisco, Georgetown, Sweetwater, Vernon, Snyder, Cameron, Chillicothe, Ferris, Albany, Ennis, Athens, Baird, Ballinger, Belton, Bryan, College Station, Commerce, Cooper, Farmersville, Gatesville, Glenrose, Granbury, Henrietta, Alvarado, Forney, Hamilton, Hearne, Meridian, McGregor, Honeygrove, Italy, Kaufman, Kemp, Kerens, Lancaster, Marlin, Mart, Rockwall, Plano, Pilot Point, Rockdale, Rosebud, Vanalstyne, Royse City, Strawn, Sulphur Springs, Teague, Whitewright, Wolfe City, Grandprairie, Bowie, Bridgeport, Decatur, Whitesboro.

Using 1931 as a test year, the commission said it found the revenues to be $9,301,862 and expenses $4,174,807. The annual depreciation was calculated at $963,066 on a 6 per cent sinking fund basis.

The commission disallowed management fees of $95,062 paid to the Lone Star Gas Corp., stating that such management fees were "a division of the profits." "A charge of this nature would simply disguise an operating profit and cause it to appear as an operating expense," the commission stated.

The commission said it adopted the actual prices being paid by the Lone Star for pipe, an item that was contested between the commission's appraiser and those for the company.

A minimum return of 6 per cent per annum was allowed the company, the commission stated. The case was ordered kept open "for such further orders as may appear proper."

Several cities on the Lone Star lines have passed ordinances reducing the city rates. The effectiveness of the ordinances has been held in abeyance pending decision on the gate rates by the commission. In many instances the company posted bond and continued to charge the old rate.

Immediate criticism was leveled at the order in a statement by L. B. Denning, president of the Lone Star Gas Co., who gave notice the company would appeal to the courts. It was likely the company would appeal to the Federal courts.

Marketed Production of Natural Gas Continued to Decline in Past Year

Natural gas recorded a continued decline in the marketed production for 1932 over 1931 of 10 per cent in volume and 9 per cent in value, according to E. B. Swanson, economist of the petroleum division of the U. S. Bureau of Mines, contributing to the Minerals Yearbook, 1932-33, of the bureau, a limited edition of which is now coming off the presses of the government printing office.

The estimated volume of natural gas marketed in 1932 was 1,518,000,000,000 feet valued at $357,000,000. The general industrial lethargy and the large volume of natural gas—approximately 80 per cent—sold for industrial, oil industry and carbon black requirements, is held largely responsible for the greater portion of the decline in natural gas marketed in 1932, as natural gas demands in 1932 for domestic and commercial purposes held relatively close to the preceding levels, particularly during the closing months of the year.

Some indications of the decline in industrial demand, on the other hand, is found in the records of natural gas consumption for the generation of electricity. Natural gas consumption for this purpose during 1932, according to the U. S. Geological Survey, totaled 107,875,000,000 feet, a decline of 22.6 per cent from the 139,328,000,000 feet recorded for 1931.

A somewhat similar decline was recorded in the carbon black industry; the quantity of gas burned during 1932 amounted to 168,237,000,000 feet, a decline of 12 per cent from the 1931 consumption of 195,396,000,000 feet.

The magnitude of the fluctuations in the larger items consequently tends to obscure the relative steadiness of the annual demand for natural gas to meet domestic needs in heating and cooking.

The decline in demand, particularly for industrial purposes, retarded developments in a number of states, and, in others resulted in a reduction of output. The effect of the lowered demand was felt noticeably in some of the principal producing states such as Louisiana, Kansas, West Virginia and Pennsylvania.

In some of the smaller producing states, on the other hand, the 1932 output increased appreciably. Due to the development of the Jackson Field, natural gas production in Mississippi was considerably larger in 1932 than in 1931. Michigan also reported a substantial increase. In the eastern fields interest in natural gas was stimulated by the continued exploration which resulted from the discovery of the Wayne-Tyrone Field in New York and the Tioga and Hebron Fields in Pennsylvania. Deeper drilling in West Virginia, notably the J. W. Heinsman No. 4,053, the deepest well ever drilled in that State, on which the final report showed a depth of 9,104 feet, resulted in several gas shows in the Devonian shale above the Oriskany sand. These developments indicate the possibility of further development of gas reserves in that State.

Particular attention was paid during the year to the problem of reduction of gas wastage, especially in California and Oklahoma. In California the gas wasted during 1932 was only 6 per cent of the recorded output as compared with 44 per cent wastage in 1929. In 1929, 700,000,000 feet of natural gas were blown into the air daily from 35 oil and gas fields. In 1932 the wastage recorded was 46,000,000 feet daily. This material reduction in natural gas wastage has resulted from voluntary curtailment of both oil and gas production, expansion of natural gas utilization and vigorous administration of state conservation legislation. In Oklahoma a concerted effort was made to reduce gas wastage in the Oklahoma City Field with marked success.

Following are some of the more important developments and discoveries during the year 1932:

Colorado—A flow of 12,000,000 feet daily at 2,917 feet in Rio Blanca County, and will possibly mean expansion of gas service to many towns in the Colorado River Valley several miles south, or that the several gas fields of northwestern Colorado may be linked to create a reserve sufficient to justify connection with the Hiawatha-Salt Lake City line.

Michigan—Production in 1932 was 1,405,880,000 feet as compared with 472,000,000 feet in 1931.

Mississippi—Production in 1932 was 9,847,907,000 feet as against 6,049,000,000 feet in 1931, an increase of 63 per cent. The discovery well in the Jackson Field was completed in February, 1930, and since that date 152 wells have been drilled on the Jackson structure. Of these 97 are producers, 8 abandoned and 5 have made heavy oil, salt water and some gas. Thirty-one gas wells were drilled on the Jackson structure in 1932. Production from this field in 1932 was 9,694,000,000 feet, going to Mobile and Pensacola and the line south of Jackson as far as Macomb, Miss.

New York—Figures for 1932 probably will show a good gain over 1931. It is certain that more natural gas is now available for local consumption from nearby sources outside the State than in previous years. Particularly is this true of the Tioga and Potter Fields not far south of the state boundary in Pennsylvania, which have materially improved the outlook for increased gas usage in western and central New York.

Washington—The only commercial natural gas development in Washington is in Rattlesnake Hills, Benton County, where 15 wells had a measured production of 132,320,000 feet during 1932. These hills lie in the midst of the vast plateau of the Columbia River lavas, and the gas production in this area is considered very freakish in that it is found in the basalt, an igneous rock. Although gas has been withdrawn from the field for more than 20 years and withdrawals have increased greatly during the recent commercial development of the area, there has been no appreciable decline in the flow of gas. Another test, also within the area of the Columbia basalts, is that at Union Gap, just south of Yakima. Here a well is already down 3,000 feet, and soon to be deepened in an attempt to complete a conclusive test of the structure. The occurrence of natural gas is also considered a possibility in the lower Wenatchee Valley. Careful geologic work has resulted in the discovery of structures which are soon to be tested in the hope of obtaining natural gas. Several tests are also in progress on the western side of the Cascade Mountains, one in Clallam County, down 1,800 feet to test possible production sands of the Hoh formation, and in Grays Harbor and Whatcom County.

Vernon Natural Gas Pool Is Now Being Extended

MUSKEGON, Mich., Sept. 18.—Oil drilling in Vernon Township, Isabella County, has proved a major extension of the Vernon natural gas pool in the Michigan series at about 1,300 feet, although most of the wells have been carried to the Dundee to be completed as oil producers.

Gordon Oil Co.'s No. 1 McDonald-Bell, NW NW SE Section 25, struck a gas flow strong enough to hurl a column of water over tne derrick last week. It will be mudded and carried to the Dundee. The well is about half a mile north of W. Hunter Atha and Columbia Oil & Gas Co.'s No. 1 Van Conent, SW SW SE Section 25, which gauged 3,750,000 feet when drilled into the Michigan series.

Mellon-Pollock Oil Co.'s Nos. 2 and 3 J. W. Stough wells in Section 23 also made gas in commercial quantities.

Another test which made a heavy gas flow but was carried on to result unsuccessfully in the Dundee was Fred Turner's No. 1 John Mahar, SE NE NE Section 26-16n-4w. It gauged about 3,000,000 feet of gas and will be plugged back or a new gas well drilled alongside on the same lease.

Natural gas is now being supplied to 20 Michigan communities and 25 townships embracing a population of more than 225,000. These communities are Muskegon, Bay City, Saginaw, Carrollton, Zilwaukee, Essexville, Reese, Bridgeport, Frankenmuth, Richville, Caro, Vassar, Golfside, Watrousville, Auburn, Fisherville, Midland, Mount Pleasant, Clare and Rosebush.

A number of large Muskegon industries have been using natural gas since 1928. The four communities named last in the list have been supplied with natural gas since 1931. Auburn and Fisherville first received it last year, while the others have been added as natural gas outlets for the Mount Pleasant area during the past three months.

Estimated open flow of more than 50 gas wells in the state is about 115,000,000 feet with a maximum allowable of 25 per cent, or about 28,500,000 feet a day. Proved acreage exceeds 5,000 acres and known reserves are estimated at more than 13,000,000,000 feet.

The city council of Lansing, the state capital, is holding hearings on a petition from Alfred H. Doughty, former mayor, for a franchise authorizing Central Michigan Gas Co. to furnish this city of 80,000 inhabitants with natural gas from the Broomfield area in Isabella County. The company plans to lay a 12-inch main to Lansing, a distance of about 60 miles.

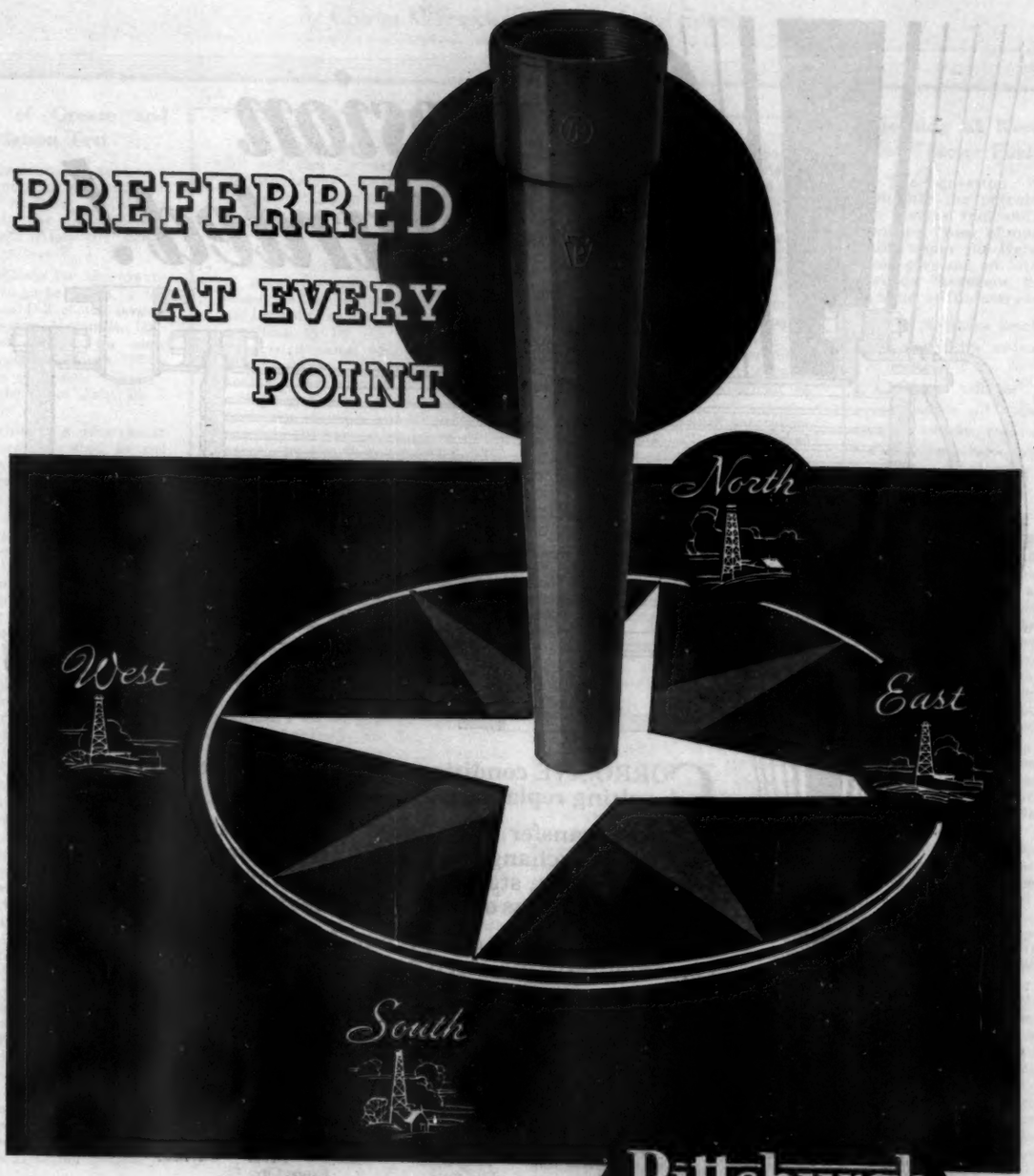
Voters of the city of Big Rapids will go to the polls in a special election October 2 on a natural gas franchise sought by Taggart Brothers, who have completed two gas wells in Austin Township, Mecosta County, about 10 miles south of the city. A hearing also is scheduled soon before the Michigan Public Utilities Commission on Taggart Brothers' request to lay a gas line from the wells to the city. The developers also control acreage in what is believed to be productive territory near the completed wells.

SHALLOW WELL IN KANSAS CITY

Kansas City, Mo., reports an intensive drilling campaign for natural gas on Wornall road, near Fifty-first Street.

A report of Frank C. Greene, petroleum geologist of Tulsa and made for the Missouri State Geological Survey, shows that quite a lot of gas is found at from 100 to 750 feet around Kansas City.

PREFERRED AT EVERY POINT



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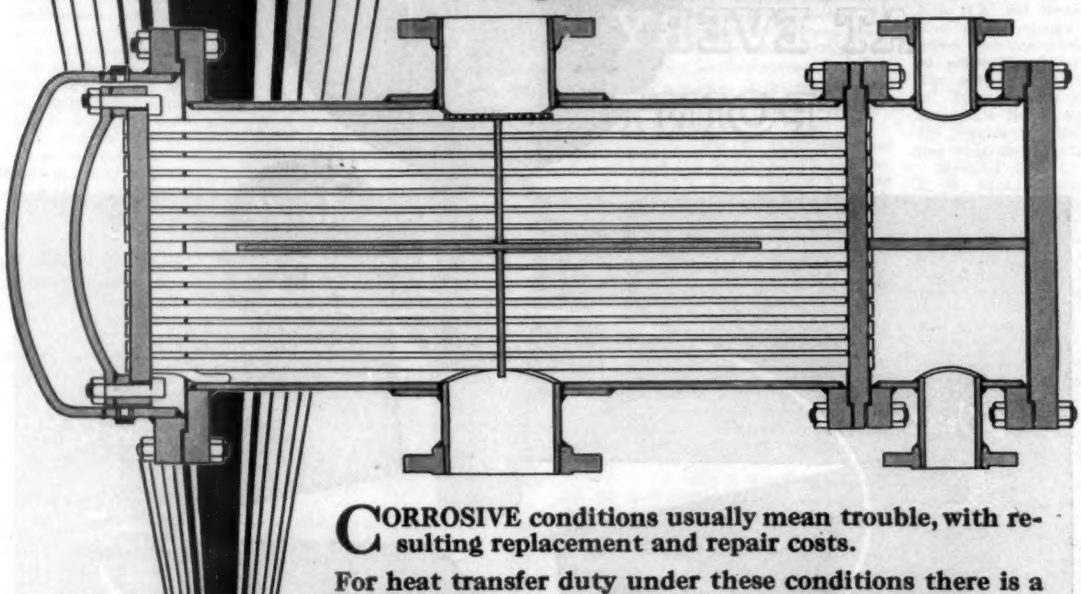

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TECHNICAL QUESTIONS ANSWERED

By Charles K. Francis, Ph. D., Technical Editor

This department of The Oil and Gas Journal is devoted to the manufacturing branches of the oil industry.

Those connected with the refining of crude petroleum, the manufacture of natural gasoline and closely allied industries are invited to submit their problems to Dr. C. K. Francis, technical editor. The department was created for the purpose of aiding managers, superintendents, engineers, chemists and all those engaged in the various phases of plant operation; also those connected with marketing and utilization of petroleum products.

Questions should be submitted in as much detail as possible.

Inquiries must be signed but only the given initials will be printed. The source of the questions is considered to be confidential.

Questions requiring a discussion of patents, the use of intricate formulas, extended computations, or cost estimates cannot be considered.

When the matter is of general interest the reply will be published within a reasonable time.

Melting Point of Grease and Sligh Oxidation Test

The writer is desirous of securing data as to the method of test for determining the melting point of grease, particularly the Gillette and Hawxhurst method. Also the Sligh oxidation test of oils.—F. I. M.

Melting point methods for the examination of greases are to be found in the reports of Committee D-2 of the American Society for Testing Materials. Oxidation tests are described in the same reports. See also Technical Paper 323-B, of the U. S. Bureau of Mines.

Answering your letter of July 24, I submit the following.

I do not find a Gillette & Hawxhurst melting point method described in the literature available, but the following from Ind. Eng. Chem. Vol. 1, 351, 1929, by Gillette, may be the method desired.

The method as outlined by Gillette makes use of an open capillary tube, 4 mm. inside diameter and about 8 cm. long, graduated at 1 cm. and 5 cm. from one end. In making this test the tube is inserted in the grease, and a plug of grease is drawn up 1 cm. into the tube, using suction if necessary to draw up this plug. The tube is then attached, with a rubber band, to a thermometer so as to bring the grease plug beside the bulb. The thermometer and tube are then immersed in a beaker of water, so as to bring the bottom of the tube 5 cm. below the surface of the water. The water is then heated at the rate of 3 degrees per minute, and when the melting point is reached the plug, which is under pressure of 5 cm. head of water, flies up the tube.

The Sligh oxidation test was developed by Dr. T. S. Sligh, Jr., of the U. S. Bureau of Standards, and has been described in the circulars of the bureau and other publications. The material following is from The Oil and Gas Journal, June 4, 1925, page 135.

The test consists of placing a 10 gm. sample of oil in a closed vessel containing oxygen at atmospheric pressure and keeping the temperature of this vessel at 200° C. (392° F.) for two and one-half hours. The oxidized sample is then diluted to a volume of 100 C. with light petroleum naphtha and the precipitate so produced weighed. The weight of the precipitate expressed as a percentage of the weight of oil used and multiplied by 100 is taken as the oxidation number of the oil.

Thus, if a 10 gm. sample of oil yields 50 milligrams of precipitate the oil is designated as having an oxidation number of 50. Lower oxidation numbers indicate greater resistance to oxidation.

Only one piece of apparatus, the oxidation flask, requires careful specification, and one material, petroleum naphtha, must be specified quality.

The oxidation flasks are made of pyrex glass to resist the rapid temperature changes involved in heating and cooling the sample. They may be secured complete with ground glass stoppers and convection plugs from dealers in laboratory glassware.

Oxygen of commercial purity (99 per cent), as ordinarily supplied in steel cylinders, provides the oxidizing atmosphere. This oxygen is blown into the flask under atmospheric conditions.

The naphtha should be free from unsaturated and cyclic compounds as these are good solvents for asphaltenes. The distillation range of the naphtha also has some effect upon the precipitation and it is desirable that the initial boiling point should be between 27° C. (80° F.) and 65° C. (150° F) with an end-point not above 120° C. (250° F.).

Evaporation Losses From Gasoline Bulk Storage Tanks

Could you give the percentage of evaporation in 10,000 to 12,000-gallon bulk storage, with 6-ounce pressure vents, during average summer temperature on 60 gravity 410° end-point gasoline?—J. W. A.

It is not possible to say what the loss of gasoline may be while in storage. Many factors have an influence; these include the volatility of the gasoline, kind of storage tank, means for vapor control, (vacuum and pressure) protection and temperature.

Losses from gasoline bulk storage tanks have been investigated by the U. S. Bureau of Mines and several circulars on the subject have been issued. Reference is made to R. I. 3,138, August, 1931, by Ludwig Schmidt and C. J. Wilhelm.

The gasoline used in the test tanks was similar to that sold by one of the large marketing companies in the Kansas City territory. At the beginning of the test, the gasoline had an average gravity of about 64.8° A.P.I. with an average boiling point of 244° F. The distillation analysis of an average sample of gasoline used in the tests follows:

DISTILLATION TEST

Pct. of recovery	Temp., °F.
First drop	91
10	133
20	154
30	174
40	203
50	231
60	262
70	298
80	336
90	380
Endpoint	419

Average boiling point, 244; recovery, per cent, 96.4; residue, per cent, 1.2; loss, per cent, 2.4; specific gravity, 0.7210; gravity, 64.8° A.P.I.; barometer, 738 mm.

The test period was from May 29 to October 25, the gasoline being stored in tanks painted, covered with aluminum, and protected with insulated housing. The insulated housing gave the lowest loss, 1.4 per cent, the tank painted red, the highest, 3.54 per cent.

The gasoline loss from the crude oil at the well to the gasoline tank at the filling station may run from 3 to 10 per cent, probably 5 per cent would be a conservative figure. The quantity of gasoline lost by evaporation, because of poor storage conditions is unquestionably very large, some authorities estimating the loss at over a billion gallons a year.

Isopropyl Alcohol Suitable for Antifreeze Solutions

What can you tell us about the feasibility of using isopropyl alcohol as an antifreeze solution from the standpoint of efficiency, cost, and possible harmful effects on the cooling system of an automobile? If possible can you furnish data on the freezing points of mixtures of this alcohol with water in varying concentrations?—C. H. B.

Isopropyl alcohol-water mixtures make a satisfactory antifreeze for use in radiators and other places where a non-freezing liquid is required.

The commercial isopropyl alcohol boils at a temperature which is a few degrees higher than the boiling point of ethyl alcohol. This is an advantage in favor of isopropyl alcohol, because the loss due to evaporation under service conditions is not so high.

The vapors of isopropyl alcohol are not objectionable, have less action on the automobile finish, and are comparatively nontoxic.

The formula for isopropyl alcohol is $CH_3CHoH\text{-}CH_3$, and that for ethyl alcohol, so commonly used in denatured form as an antifreeze liquid, is C_2H_5OH, showing that the former has the higher molecular weight and would therefore have a higher freezing point. This would make it somewhat less effective in lowering the freezing point of a water solution than ethyl alcohol, but this property may be overcome by adding 20 to 25 per cent more isopropyl than ethyl for an equivalent depression of freezing point.

Methanol will assist in lowering the freezing point. A mixture of 65 per cent isopropyl alcohol and 35 per cent methanol has been found to be the equivalent of denatured ethyl alcohol.

The table following gives the freezing point, A.S.T.M. cold test method, for isopropyl alcohol-water solutions.

FREEZING POINT ISOPROPYL ALCOHOL AND WATER

(°F. temperatures)

Isopropyl alcohol per cent	Wtr. per cent	Crystals form	Freezing point	Specific gravity
100	0	clear at	—79	0.7990
80	20	—12	—35	.8565
60	40	— 5	—15	.9024
50	50	0	—15	.9279
40	60	2	— 5	.9484
25	75	35	15	.9745

The freezing point of pure ethyl alcohol is about minus 179° F., and pure propyl alcohol minus 123° F.

The market price of isopropyl alcohol is less than that of ethyl alcohol. The consumption is less and there are no objectionable fumes.

Meaning of Kerosene Distillate for Tractor Fuel in State Laws

The question has been raised whether the petroleum product sold as tractor fuel and having an initial boiling point of over 200° F. is taxable under the Nebraska statute. Can you give me an interpretation of the words "kerosene distillate" as used in the oil industry?—W. H. H.

The Nebraska gasoline tax law defines motor vehicles and motor vehicle fuels as follows:

"'Motor vehicles' are hereby defined and include all automotive or self-propelled vehicles, engines or machines, movable or immovable, which are operated or propelled, in whole or in part, by internal combustion of one or more of the 'motor vehicle fuels' herein defined.

"'Motor vehicle fuels' are hereby defined and shall include such fuels known as gasoline, benzol, naphtha and benzene with an initial boiling point under 200° F.; and such other volatile and inflammable liquid as may be produced or compounded for the purpose of, or as may be used for, operating or propelling 'motor vehicles' except the products commonly known as kerosene oil, kerosene distillate, crude petroleum, naphtha and benzene with a boiling point over 200° F."

The term kerosene distillate as recognized in the petroleum industry, has a quite definite meaning. Any liquid product which is a condensate obtained by distillation is a distillate, and, as used by those familiar with petroleum products, means a material requiring some form of purification or adjustment before it will meet the trade standards for the corresponding commercial product, kerosene. The primary products derived from petroleum are known by distinctive names, such as gasoline, naphtha, kerosene, lubricating oil, etc. When these are sold they must meet the specifications that have been adopted either by the Federal Government or by the state in which they are marketed. Since a distillate does not meet such standards it is required to be sold under some name which will distinguish it.

The first fractions obtained by the distillation of petroleum are combined and purified to make gasoline and the next group, distilling at somewhat higher temperatures, are blended and treated in a similar way to make kerosene. As kerosene is so closely related to gasoline it may be cotaminated with the latter if the refining operations are not under close control. One important specification for kerosene, the flashpoint, is intended to prevent the sale of kerosene containing some fractions which are dangerous and should have been included in the gasoline group. The government flashpoint is 115° F., but some states permit this to be 100° F. The distillation specification is a maximum of 625° F.

Under normal conditions the market price of gasoline is higher than that for kerosene, so it is natural that the refiner will make the separation as close as possible to prevent the more expensive product being sold at the lower price. For this reason the distilling range of kerosene is usually much higher than for gasoline. This range for gasoline is commonly from about 80° to 437° F., and for kerosene from 300° to 575° F. You will see from this that any kerosene distillate should have an initial boiling point well over 200° F.

PERSONAL PARAGRAPHS

K. A. Schmidt, geologist with Tide Water Oil Company, spent the week-end in Fort Worth, Tex.

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A. T. Jergins has returned to Long Beach, Calif., after an absence of several weeks on a business trip.

• • •

Harry B. Yeatts, of the Standard Oil Company (New Jersey), arrived at New York last week from Buenos Aires.

• • •

S. H. Casteel, Fort Worth, Tex., geologist, is now in the Gulf Coast district where he is employed by Landreth Production Company.

• • •

A. C. Temmel, field engineer for the National Tube Company, has returned to Tulsa after a combined vacation and honeymoon trip.

• • •

Shep F. Miers, sales representative of Kerotest Manufacturing Company, of Pittsburgh, Pa., was a visitor among Mid-Continent oil offices last week.

• • •

Dan J. Harrison, independent operator and president of the Harrison Oil Company, Houston, Tex., is in Chicago visiting the World's Fair following a vacation trip in Colorado.

• • •

Dr. J. B. Eby, consulting geophysicist and geologist, Houston, Tex., has returned from a trip to London, England, where he attended the International Petroleum Congress.

• • •

L. A. Gibbons, of the legal staff of the Union Oil Company, will speak on "The Code for the Oil Business" at the September luncheon of the Petroleum Accountants Society of California.

• • •

Lee K. Worth has been made superintendent of production in the Gulf Coast district for the Stanolind Oil & Gas Company. He has been transferred from the East Texas Field where he has had charge of production.

• • •

A. Baril, vice president of the International Gas Union and former president of the French Technical Gas Association, arrived at New York en route to the annual meeting of the American Gas Association.

• • •

R. J. Berry, president of the Mid-Kansas Oil & Gas Company, and senior vice president of the Ohio Oil Company, is on a general tour of the Mid-Continent and Rocky Mountain districts for his companies.

• • •

H. L. Craig has become the East Texas representative of Bridgeport Machine Company, with headquarters at Kilgore. Mr. Craig served in the Mid-Continent and Mexican fields before entering the supply business.

• • •

E. R. Woodward, formerly with the Barrett Company, New York, and recently with the Firestone Rubber Company, Akron, Ohio, has returned to the Barrett company as technical adviser and is at present making a special investigation in the Mid-Continent.

• • •

H. C. Harder, petroleum engineer of the Indian Territory Illuminating Oil Company, has been made assistant production superintendent in the Seminole district, under B. O. Hindman, district superintendent, according to an announcement of September 11 from A. V. Hoenig, vice president in charge of production and engineering.

• • •

Edson S. Bastin, chairman of the department of geology at the University of Chicago, is president of the Society of Economic Geologists for the current year. D. H. McLaughlin, professor of mining engineering at Harvard, is secretary. William E. Wrather, consulting petroleum geologist, of Dallas, Tex., and chairman of the A.I.M.E. petroleum division, has been selected for president in 1934.

J. C. Case of the New York headquarters office of Socony-Vacuum Corporation, sailed for Europe last week.

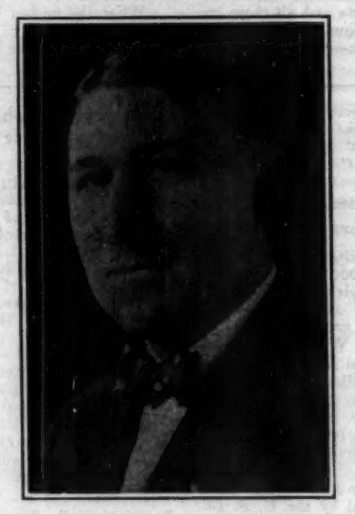
• • •

W. D. Newlon, of Salt Lake City, Utah, recently made a trip to the La Barge oil field in southwestern Wyoming.

• • •

G. Reclus, chief engineer of the Paris Gas Company, and Marcel Bernard, director of the Lisle Gas Company, are visiting in New York.

Men of the Industry



M. O. RIFE

M. O. Rife began work as a roustabout in 1903 for the Gulf Production Company, and on April 10, 1933, was chosen to succeed H. A. Melat at Fort Worth, Tex., when the latter was retired by the company.

Mr. Rife was born in Bloomville, Ohio. He moved to Texas in 1903, and built rigs in the Gulf Coast district several months before getting a job with the Gulf. He served as roustabout for the Gulf two and one-half years and then was sent to Humble, Tex., in charge of the producing and drilling department. He was located in this field for another two and one-half years, then was transferred to Mooringsport, La., where he developed the old Caddo Field. He was in charge of this field about six years, when he was moved into Shreveport as assistant to Mr. Melat, then in charge of that district.

When Mr. Melat was moved to Fort Worth to take charge of the West Central, Panhandle and North Texas districts, he took Mr. Rife to help him. When the Panhandle and Burkburnett booms were over Mr. Rife was transferred back to Shreveport in charge of that district, and to develop the Smackover, Arkansas, Field. While in charge of that district he opened the Richland gas field by drilling a wildcat well. He also supervised the drilling near Jackson, Miss., while in Shreveport.

In August, 1931, the company moved Mr. Rife to the East Texas Field, to take charge of the company's properties. From East Texas he was transferred to Fort Worth, and is now in charge of the company's properties in West Texas, West Central Texas, North Central Texas and the Panhandle.

Golf is Mr. Rife's favorite recreation. He is a Mason and a member of El Karuba Temple of the Mystic Shrine, Shreveport.

A. D. Ryan, chief of the Department of Interior's investigating staff, was a Fort Worth, Tex., visitor last week.

• • •

Frank R. Seaver, president of the Doheny-Stone Drill Company, of Los Angeles, Calif., has arrived in London, England.

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R. E. Havenstrite, president of California Western Oil Company, has returned to Los Angeles from a vacation spent in Alaska.

• • •

Alex Olivay, superintendent for the Plymouth Oil Company at Big Spring, Tex., was a business visitor to Fort Worth, Tex., the past week.

• • •

Romeo Gauvreau, president of the Loyal Oil & Gas Company, Ltd., Montreal, accompanied by his wife, sailed from New York last week for Havre, France.

• • •

Maj. Aaron E. Carpenter, vice president of E. F. Houghton & Company, oil refiners and exporters of Philadelphia, Pa., sailed from New York last week for a visit to Europe.

• • •

F. I. Greenwell has disposed of his interest in the Taft Well Drilling Company to President W. F. Kuaas and has been succeeded as secretary-treasuer by F. L. Shepherd.

• • •

Elliott F. Cowden, of Midland, Tex., on whose land in Ector County an extensive oil exploration program is under way, was a business visitor in Fort Worth, Tex., last week.

• • •

Capt. J. F. Lucey has submitted his resignation as president and director of the Federal Home Loan Bank at Little Rock, Ark. Captain Lucey was appointed by President Hoover.

• • •

Dan Mahoney, Texas manager for Stanolind Crude Oil Purchasing Company, has returned to his office at Fort Worth after spending nearly two weeks in Mexico. Mrs. Mahoney and their son accompanied him on the vacation trip.

• • •

Former Secretary of War Patrick J. Hurley will make a national address in behalf of the national recovery program on September 27. Mr. Hurley was said to have been asked by Recovery Administrator Johnson personally to give his services.

• • •

Wilson Keyes, formerly with the Dixie Petroleum Company; James Flanagan, who was with the Gulf and Gypsy Oil Companies, and Hugh McClure, formerly with the Sinclair Prairie Oil Company, have reported at Tyler, Tex., to assume their new duties in connection with the Federal investigation bureau.

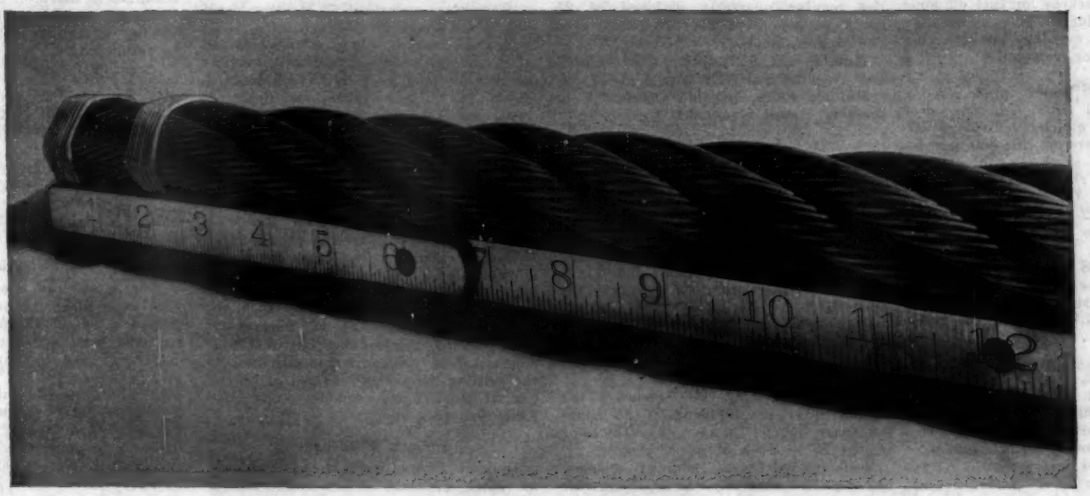
• • •

James W. Finley, chief counsel of the Empire Companies at Bartlesville, Okla., was made chairman of the mineral division of the American Bar Association at its recent meeting in Grand Rapids, Mich. Earle W. Evans, the new president of the bar association, is attorney in Kansas for the Standard Oil Company (Indiana). He resides at Wichita.

• • •

Fred W. Padgett has resigned his position as professor of petroleum engineering at the University of Oklahoma, to accept a position in the development department of the Sun Oil Company, Marcus Hook, Pa. He joined the staff of the University of Oklahoma in 1917 as associate professor of chemistry in charge of petroleum technology and in 1925 was transferred to the newly-formed department of petroleum engineering, and made professor of petroleum engineering in charge of refining. He was responsible for the erection of the 300-barrel refinery, now located on the university campus. He has been active in the petroleum division of the American Chemical Society, of which he formerly was secretary and vice chairman.

True . . . it is bought by the foot . . . but



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MARKET RECORD OF OIL SECURITIES

NEW YORK, Sept. 18.—With stronger support accorded a number of leading issues, the oils again worked into stronger position last week, and a number of advances were scored. Indications of pool support for some of the oils were seen in the week's operations, and it was evident that operations for the rise were being resumed on a number of issues.

The general strengthening of gasoline prices throughout the country, as well as the stronger markets for fuel oil and other refined products, have materially strengthened the earning position of many of the major companies.

Peoples Gas

Peoples Natural Gas Co. has declared the regular quarterly dividend of 62½ cents per share on its $50 par 5 per cent preferred stock, payable October 2 to stock of record September 15.

General Asphalt Co. and subsidiaries reported for the 12 months ended June 30, 1933, net loss of $727,510 after charges, taxes, etc. This compares with net loss of $281,338 for the previous 12 months. Gross sales for the fiscal year ended June 30, last, amounted to $6,083,721, against $7,982,422 in the preceding 12 months.

Houston Oil Co. of Texas and Houston Pipe Line Co., wholly-owned subsidiary, for the six months ended June 30, reported consolidated net loss amounted to $734,673 after taxes and charges, compared with net loss of $121,534 in the corresponding period last year.

Panhandle Producing & Refining Co. and subsidiaries reported for the first half of 1933 net loss of $225,106 after taxes and charges, against net loss of $179,700 in the first half last year.

South Penn

South Penn Oil Co. declared a quarterly dividend of 20 cents per share on its $25 par common stock, payable September 30 to stock of record September 15.

Standard Oil Co. of Kentucky declared the regular quarterly dividend of 25 cents, payable September 15 to stock of record September 1.

Humble Oil & Refining Co. declared the regular quarterly dividend of 50 cents per share, payable October 1 to stock of record September 1.

Lone Star Gas

Lone Star Gas Corp. declared a quarterly dividend of 16 cents per share, payable September 30 to stock of record September 15, in 6 per cent convertible preferred stock. The company also declared the regular quarterly dividend of $1.50 per share on the 6 per cent convertible preferred, payable the same date.

Ohio Oil Co. declared the regular quarterly dividend of $1.50 per share on its preferred stock, payable September 15 to stock of record August 31.

Atlantic Refining Co. declared the regular quarterly dividend of 25 cents per share on the common, payable September 15 to stock of record August 21.

Seaboard Oil Co. of Delaware declared the regular quarterly dividend of 15 cents per share, payable September 15 to stock of record September 1.

Petroleum Corp.

Net worth of Petroleum Corp. of America increased more than $19,000,000 in the first six months of 1933, according to a statement to stockholders by H. D. Sheldon, president.

Mexican Eagle

Report on operation of Mexican Eagle Oil Co. (Royal Dutch-Shell) for 1932, submitted to the annual meeting of stockholders, reveals that the 7 per cent cumulative first preferred stock was reduced by 548,840 shares, with a par value of 2,195,360 Mexican pesos. At the end of the preceding year there were outstanding 3,901,760 shares of 4 gold pesos par value.

Atlas Pipe Line

Shreveport El Dorado Pipe Line Co. has sent a letter directing stockholders to present their certificates to the Pennsylvania Co. for Insurances on Lives and granting annuities to receive the distribution of Atlas Pipe Line Co. stock approved by stockholders of Shreveport.

The board of governors of the Philadelphia Stock Exchange has admitted to the regular list 500,000 shares of no-par capital stock non-assessable, Atlas Pipe Line Co., Inc., stock.

Indiana Pipe Line

Indiana Pipe Line Co. has declared an extra dividend of 10 cents and a dividend of 15 cents both payable November 15 to stock of record October 20. On May 10 this year the company paid a dividend of 15 cents and on November 15, 1932, the company paid a 5-cent extra and a dividend of 10 cents.

Twenty Representative Stocks

The Oil and Gas Journal's weekly average price of 20 representative petroleum stocks listed on the New York Stock Exchange and New York Curb, based on closing quotations for Wednesday, was as follows:

Mar. 22	12.66	June 21	23.09
Mar. 29	12.35	June 28	23.86
Apr. 5	12.60	July 5	25.20
Apr. 12	12.04	July 12	25.74
Apr. 19	14.32	July 19	24.89
Apr. 26	15.80	July 26	22.25
May 3	16.14	Aug. 2	20.29
May 10	17.22	Aug. 9	22.29
May 17	20.20	Aug. 16	21.05
May 24	18.00	Aug. 23	23.40
May 31	20.51	Aug. 30	24.04
June 7	21.53	Sept. 6	24.68
June 14	25.44	Sept. 13	25.45

Richfield

Details of the Standard Oil Co. of California offer for acquisition of Richfield Oil Co. of California are reported to have been completed and agreed to jointly by the reorganization committee and Standard Oil Co. Official announcement of the details will be made shortly. The offer now provides for payment of $17,500,000 of 20-year 6 per cent debentures to be guaranteed by Standard, together with $6,000,000 of market value Standard stock. This amounts to an ag-

Independent Oils on New York Curb

Quotations Compiled by Francis, Bro. & Co., Associate Members of New York Curb, Kennedy Building, Tulsa, Okla.

(Complete record week ended Sept. 9)

1933 High	1933 Low	Week ending Sept. 9 Sales	Week ending Sept. 9 High	Week ending Sept. 9 Low	Close Sept. 13	Stocks—		Outstanding capital	Par value	Div. rate	Payable or last paid	1930 High	1930 Low	1931 High	1931 Low	1932 High	1932 Low
2⅜	⅛	7,900	1¾	1⅜	1⅝	American Maracaibo	(sh)	700,000	N.P.	....	.....	4½	½	1⅜	⅛	⅝	⅛
5½	1⅛	200	2¼	2	..	Arkansas Natural Gas	(sh)	4,084,225	N.P.	....	.....	16⅜	4⅝	6½	1⅞	3¾	⅝
4	1	4,700	2	1¾	1⅞	Arkansas Natural Gas "A"	(sh)	3,522,521	N.P.	....	.....	16⅝	4⅝	6¾	1⅞	3⅜	½
4¾	2	100	2⅞	2⅞	..	Arkansas Natural Gas pfd.	(sh)	2,193,000	$10	....	4- 1-32	8½	6¼	7	3⅞	5⅝	1½
14½	6⅛	No sales	..	..	..	British American Oil Corp.	(sh)	2,622,642	N.P.	20cQ	3-14-33	23	13⅜	16⅞	6¼	9¾	6¾
7¾	¼	20,300	6⅞	5¾	5⅞	Carib Syndicate	(sh)	579,000	25c	....	.....	2¾	⅝	2⅜	⅛	⅝	⅛
6¼	2	47,700	3⅛	2¾	2⅞	Cities Service	(sh)	36,979,065	N.P.	....	6- 1-32	44¼	13	20¾	5	6⅞	1¼
30	10½	700	15⅞	15	..	Cities Service pfd.	(sh)	1,125,931	N.P.	....	6- 1-31	93⅞	78¼	84¾	35⅝	53⅜	10
2½	⅝	3,400	1⅝	1½	1½	Columbia Oil & Gasoline v.t.c.	(sh)	$2,000,000	$1	....	.....	⅝	⅛	½	1/16	2⅛	½
4	¼	800	3	2¾	2⅞	Colon Oil	(sh)	2,200,000	N.P.	....	.....	8¼	1⅛	3⅛	¼	1¼	¼
2⅞	1	No sales	..	..	..	Consolidated Royalty Oil Co.		$5,527,880	$10	5cQ	1-25-33	5⅞	2	2¾	1	2	1
7½	⅞	No sales	..	..	..	Cosden Oil	(sh)	323,950	N.P.	....	.....	74⅜	1¼	3⅝	⅝	2⅞	¼
7¼	2⅛	300	5⅝	5	..	Darby Petroleum	(sh)	609,696	N.P.	....	10-15-30	21¾	4¼	5	1⅜	7⅛	1⅝
2¾	⅞	1,100	2¼	2	..	Derby Oil & Refining	(sh)	500,000	N.P.	....	.....	11	2	6	1½	3	1
62	24	5,400	60½	57	59	Gulf Oil Corp.	(sh)	4,504,921	$25	....	10- 1-31	166⅞	58½	75½	25⅝	44¾	23
6½	1¼	100	3¾	3¾	..	Indian Terr. Illum. Oil "B"	(sh)	7,090,037	N.P.	....	.....	53½	12⅝	16⅞	5	4½	1½
2	⅝	1,400	1¼	1⅛	1¼	Kirby Petroleum	(sh)	750,000	N.P.	10c	4-15-33	3	⅞	1⅞	¼	1	⅜
1½	⅜	1,300	⅝	⅝	⅝	Leonard Oil & Development		$50,000,000	$25	....	.....	5	⅜	2	⅛	⅝	⅛
2¼	⅛	1,000	1⅛	1¾	..	La. Land & Exp.	(sh)	3,000,000	N.P.	....	.....	4¾	½	1½	¼	2½	½
9½	1¼	No sales	..	..	7	Lion Oil & Refining	(sh)	250,000	N.P.	....	10-27-30	29	4⅞	6⅜	1½	3½	⅞
12⅞	4⅜	700	8¾	8	8⅝	Lone Star Gas	(sh)	5,000,000	N.P.	16cQ‡	3-31-33	55⅞	19⅝	25	5½	11	3⅜
6½	2⅛	1,300	5½	4¾	..	Memphis Natural Gas	(sh)	920,000	N.P.	....	4-15-32	22¼	7½	12⅛	4½	5¼	1⅝
5	2	No sales	..	..	..	Mexico-Ohio Oil Co.		500,000	N.P.	....	.....	7½	1⅜	4⅞	1½	3⅜	1½
1¼	⅛	400	½	½	..	Mountain & Gulf		$4,000,000	$1	....	4-15-31	⅝	⅜	½	⅛	⅜	⅛
6½	2½	1,100	5⅞	5⅜	5⅜	Mountain Producers		$1,682,182	$10	20cQ	4- 1-33	12⅛	3⅜	5⅞	2	4⅝	2½
20	10	600	15⅜	14	14⅜	National Fuel Gas	(sh)	3,810,183	N.P.	25cQ	1-16-33	41⅜	19⅜	26½	9¾	14⅝	8
1⅝	½	3,800	1⅝	1½	1⅝	New Bradford Oil		$7,224,186	$5	....	4-15-31	3½	1⅛	1½	½	⅞	⅜
1⅞	½	No sales	..	..	..	New Mexico and Arizona		$1,000,000	$1	....	.....	7⅛	1½	3	⅝	1¼	⅜
5	½	No sales	..	..	..	North Central Texas	(sh)	262,446	$5	....	9- 2-30	11¼	2⅛	3¼	⅜	1½	⅜
½	⅛	No sales	..	..	..	North European Oil	(sh)	1,372,391	N.P.	....	.....	6¼	⅝	2⅛	¼	⅝	1/16
7½	3	200	56¼	50	7½	Pacific Western Oil	(sh)	1,000,000	N.P.	....	.....	19½	5½	15	2⅞	8	3
1⅞	⅛	300	1⅛	1	..	Reiter-Foster	(sh)	388,584	N.P.	....	12- 2-29	5⅜	1	3⅛	¼	½	1/16
2¼	¼	1,000	1⅛	1	..	Richfield Oil pfd. x.w.	(sh)	399,950	$25	....	.....	23½	6½	11	¼	1	⅛
4¼	⅝	900	2½	2	..	Ryan Consolidated	(sh)	296,931	N.P.	..	.....	8⅝	2	3	⅝	2⅛	⅝
1	⅜	No sales	..	..	..	Salt Creek Consolidated	(sh)	1,286,300	$10	....	4- 1-31	2½	½	1⅜	⅛	⅞	⅛
9¼	3½	500	6¾	6⅜	6⅝	Salt Creek Producers	(sh)	1,496,859	$10	25c	2- 1-33	15¼	5¼	7¾	2⅜	5½	2⅜
1½	¼	1,200	1	1	⅞	Sunray Oil	(sh)	1,163,185	$5	....	4-15-31	10	2	5¼	¼	⅝	¼
13	6¼	800	9	8⅞	8⅝	Texon Oil & Land	(sh)	936,036	N.P.	25c†	12-30-32	19½	8	12⅞	2½	10½	4½
1½	⅛	1,900	1⅛	1	..	Venezuelan Petroleum	(sh)	755,090	$5	....	2-15-30	4¼	⅜	1⅞	¼	1/16	1/16
3¾	1½	200	2½	2½	..	Woodley Petroleum		$500,000	$1	....	3-31-29	5	½	3½	1⅛	2⅜	1⅛

*Ex-dividend. †Plus extra dividend of 25 cents. ‡Payable in stock. §Paid in lieu of regular cash dividend of 2 per cent.

gregate offer of $23,500,000 for Richfield.

The original offer provided for 200,000 shares of Standard stock then worth $25 a share, or $5,000,000, plus the $17,500,000 of debentures. In addition, both offers provide that Standard will pay up to $500,000 for reorganization expenses.

During the prolonged interval required to complete the plan, the price of Standard stock has been steadily advancing and stood at 41⅞ at Wednesday's close. At present market price the 200,000 shares would be worth $8,876,000, equivalent to an increase of $3,376,000 in the amount of the Standard offer.

Union Oil

Union Oil Co. of California has notified holders of its 10-year 5 per cent sinking fund gold bonds, Series C, that it will redeem on October 1, $1,500,000 principal amount of these bonds at the face value thereof and accrued interest, together with a premium of one-half of 1 per cent of the principal amount. Payment at the redemption price will be made at either the Sixth and Spring Street office of the Security First National Bank of Los Angeles or at the main office of the Central Hanover Bank & Trust Co. of New York.

R. A. JOHN DIES

HOUSTON, Tex., Sept. 18. — Robert A. John, at one time president of the Texas Pipe Line Co., died at his home here September 8. He had been an attorney since the early days of the Gulf Coast and became associated with the Texas Co. in 1908 as industrial lawyer. From 1911 to 1914 he was chief attorney and then became general attorney. He retired three years ago.

Standard Oil Stocks on New York Curb

Quotations Compiled by Francis, Bro. & Co., Associate Members of New York Curb, Kennedy Building, Tulsa, Okla.

(Complete record week ended Sept. 9)

1933 High	1933 Low	Week ending Sept. 9 Sales	Week ending Sept. 9 High	Week ending Sept. 9 Low	Close Sept. 13	Stocks—		Outstanding capital	Par value	Div. rate	Payable or last paid	1930 High	1930 Low	1931 High	1931 Low	1932 High	1932 Low
13	6	No sales ..	..	..	..	Borne Scrymser		$1,000,000	$25	...	10-15-30	25	11¼	16	6	7	6
39¾	25	No sales ..	..	..	..	Buckeye Pipe Line		$10,000,000	$50	75cQ	6-15-33	69	39⅞	56	30	35	17½
118	71	300	118	114	..	Chesebrough Mfg.		$3,000,000	$25	$1Q‡	6-29-33	184⅞	104¼	129½	75	90	53
8⅝	2¼	5,900	8¼	7½	7⅞	Creole Petroleum	(sh)	6,974,356	$5	....	.....	7⅝	3	3⅞	1⅝	3⅛	1⅝
41¾	20	50	34½	34½	..	Eureka Pipe Line		$5,000,000	$100	$1Q	8- 1-33	54¾	26	36	19	35	18
88	40	3,000	86½	83¼	87	Humble Oil & Refining		$74,365,725	$25	50cQ	7- 1-33	119	57¼	72	44¼	55	35⅝
15¼	6½	6,100	14⅜	13½	14	Imperial Oil of Canada	(sh)	26,557,496	N.P.	12½cQ	9- 1-33	30	15	18¼	7⅜	10⅞	6¼
8	3⅛	100	5¾	5¾	..	Indiana Pipe Line		$3,000,000	$10	15cS.A.	5-15-33	41	14½	21⅛	5½	7½	2⅜
19⅞	8⅞	13,400	19	18	19⅛	International Petroleum	(sh)	14,247,088	N.P.	28cQ§	6-15-33	24	11⅝	15½	7⅜	12¼	8
10	5½	700	8	7⅞	..	National Transit		$6,362,500	$12.50	35cS.A.	6-15-33	22⅜	11½	17½	5	10½	6
6⅛	4¼	300	5⅛	5	..	Northern Pipe Line		$1,200,000	$10	25c	7- 1-33	54	28¼	35½	20	5½	3⅛
22⅛	11	1,800	18⅝	17¼	..	South Penn Oil		$30,000,000	$25	25cQ	3-31-33	45⅞	16⅛	23⅞	9¼	16½	9⅝
6	2¾	No sales ..	..	..	..	Southern Pipe Line		$1,000,000	$10	10cQ	3- 1-33	20⅞	8⅝	17	7	10	3¾
43	24½	No sales ..	..	..	..	Southwest Pennsylvania Pipe Line		$1,750,000	$50	$1Q	7- 1-33	64	32	42½	25	37	27
33⅞	17	27,300	33⅜	31	33½	Standard Oil of Indiana	(sh)	15,941,895	$25	25cQ	6-15-33	59⅞	30	38½	13½	25⅛	13⅛
19¾	8⅜	3,200	17⅜	16½	17⅜	Standard Oil of Kentucky		$26,069,830	$10	25cQ	6-15-33	40½	18⅝	23⅝	12½	15⅞	8⅜
20½	11	300	17¼	16¼	..	Standard Oil of Nebraska		$4,770,550	$25	25cQ	9-20-33	48⅞	34⅝	36½	16	19	10¾
41	15½	150	34	32½	..	Standard Oil of Ohio		$18,811,675	$25	37½cQ	1- 3-33	108½	43¼	62½	23	30⅛	15½
3	1	No sales ..	..	..	..	Swan-Finch Co.	(sh)	34,480	$25	....	1-15-29	10	4	4½	1	2	1⅝

*Ex-dividend. †Unit of trading less than 100 shares. ‡Plus 50 cents extra. §Payable in Canadian funds.

Transactions in Oil Shares on New York Stock Exchange

Quotations Compiled by Francis, Bro. & Co., Members of the New York Stock Exchange and Associate Members of New York Curb, Kennedy Building, Tulsa, Okla.

(Complete record week ended Sept. 9)

1933 High	1933 Low	Week ending Sept. 9 Sales	Week ending Sept. 9 High	Week ending Sept. 9 Low	Close Sept. 13	Stocks—		Outstanding capital	Par value	Div. rate	Payable or last paid	1930 High	1930 Low	1931 High	1931 Low	1932 High	1932 Low
47	18½	37,500	46	42¼	45¾	Amerada Corp.	(sh)	774,875	N.P.	50cQ	7-31-33	31½	16½	23	11¼	22¾	12
35½	6¾	40	29	28½	27⅝	Associated Oil		$34,356,180	$15	25cQ	.....	51	30	31	8¾	16½	6½
31⅞	12⅝	22,600	30⅜	28¼	30½	Atlantic Refining		$67,416,050	$25	25cQ	6-15-33	51⅜	16⅝	23⅝	8⅝	21⅞	8⅝
11	3	45,000	11	9¾	10⅝	Barnsdall Corp. A		$11,293,895	$5	....	5-11-31	34	8⅝	14½	4	7	3⅝
28⅛	9	33,500	19½	17⅛	17½	Columbia Gas & El.	(sh)	11,684,220	N.P.	20cQ§	5-15-33	87	30⅝	45⅝	11⅝	21	4¼
12	5¼	100	10½	10½	..	Colonial Beacon Oil	(sh)	1,444,970	N.P.	....	12-22-22	20⅜	8⅜	10½	7½	12½	9
15¾	5	91,700	15	13½	15	Consolidated Oil Corp.	(sh)	14,218,835	N.P.	....	.....	..	..	..	..	9	4
19½	4⅞	58,900	19	17½	18½	Continental Oil of Delaware	(sh)	4,738,593	$5	....	12-15-27	30½	7¾	12	5	9⅜	3⅝
43¼	13⅜	3,500	39⅛	36¼	38⅝	General American Transportation		751,638	N.P.	25cQ	1- 2-33	111⅞	53⅛	73⅛	28	35⅜	9½
27	4⅝	6,600	23	20⅝	22	General Asphalt	(sh)	413,333	$10	....	6-15-32	71½	22⅜	47	9⅝	15½	4⅜
38	8¼	10,600	33	29¾	..	Houston Oil		$24,968,600	$100	....	10-17-30	116⅞	29¼	68½	15¾	28¼	8¾
4½	1⅜	700	3½	2⅜	4¼	Indian Refining		$12,564,070	$10	....	10- 1-30	17	2	4⅝	1¼	2¾	1
4	⅝	900	3⅛	2¾	..	Louisiana Oil Refining	(sh)	1,309,069	N.P.	....	.....	12	3½	4½	1	2¼	½
4	½	1,000	3½	2⅝	3⅞	Maracaibo Oil	(sh)	330,000	N.P.	....	.....	10⅜	1⅜	3¾	½	1½	⅜
16	3¾	13,500	15½	13¾	14⅞	Mid-Continent Petroleum	(sh)	1,857,912	N.P.	....	2-16-31	32	11	16¾	5	8⅞	3¾
28⅝	4	1,200	18¼	17	18	National Supply of Delaware	(sh)	390,879	$25	....	5-15-31	124¾	60	70¼	5	13	3½
17⅝	4¾	38,200	16⅝	15	16⅜	Ohio Oil	(sh)	6,562,005	N.P.	....	12-15-32	32	16	19½	5⅛	11	5
14	8	No sales ..	..	..	..	Pan American P. & T.	(sh)	3,416,082	$5	....	3-15-33	46½	42	35⅛	20	14	6
4¼	⅜	1,800	2¼	2	2⅛	Panhandle P. & R.	(sh)	198,770	N.P.	....	.....	12⅜	1⅜	4¼	⅝	1¼	¼
17⅞	4¾	52,200	17¼	16	17¾	Phillips Petroleum	(sh)	4,156,908	N.P.	....	1- 2-31	44⅝	11½	16⅝	4	8⅛	2
1⅞	¼	3,100	1¼	1	1⅛	Pierce Oil Corp.		$29,622,831	$25	....	.....	2½	½	1½	¼	¾	¼
2¾	⅝	4,600	2⅛	2	2	Pierce Petroleum	(sh)	2,500,000	N.P.	....	2-16-31	7⅛	1⅛	3⅜	½	1⅝	⅛
17⅝	6¾	24,400	16½	14⅞	16	Plymouth Oil Co.	(sh)	1,050,000	$5	75cA	.....	..	..	..	..	12½	8½
5½	5⅝	No sales ..	..	..	..	Prairie Oil & Gas		$61,035,800	$25	....	3-31-31	54	11¼	20⅜	4⅛	9⅛	3½
22	7	500	21	20⅜	..	Prairie Pipe Line ...		$101,250,000	$25	....	6-30-31	60	16⅝	26½	5⅞	12¼	5½
2⅞	¼	2,800	1⅞	1½	..	Producers & Refiners		$37,438,950	$50	....	9-15-23	11⅞	1	6	1	1⅝	⅛
13	3	570	10	7½	..	Producers & Refiners pfd.		$2,845,350	$50	....	5- 4-25	40	11½	16	3	9¾	1
11⅞	2½	47,200	11⅞	10⅝	12¾	Pure Oil		$75,959,250	$25	....	9- 1-30	27¼	7⅝	11⅞	3¼	6½	2⅝
36⅜	17⅝	300	34⅞	34⅝	34½	Royal Dutch Am.	(sh)	611,303	....	80½cf	8- 5-32	56½	36⅞	42⅝	13	23⅜	12⅛
34	15	44,700	34	29	35⅛	Seaboard Oil of Delaware	(sh)	1,204,460	$4	15cQ	9-15-33	37	9¾	20⅜	5½	20⅜	6⅝
24¾	11¼	40	24	24	..	Shell Transport & Trading Co.		£23,985,000	£1	53cf	7-22-32	48⅜	26	34	5	16⅜	8
11⅝	4	18,300	9½	8⅝	9⅝	Shell Union Oil	(sh)	13,066,497	N.P.	....	6-30-30	25½	5¼	10¼	2½	8¾	2½
61	28½	1,000	52	51	..	Shell Union Oil pfd.	(sh)	400,000	$100	....	7- 1-31	106¼	55	78	15	65¼	18
12⅜	4⅞	2,100	11⅜	10½	11¼	Simms Petroleum	(sh)	600,000	$20	25cQ	1-16-32	37	5⅝	11	3½	7½	3¼
9⅞	3	3,400	9⅜	8½	9	Skelly Oil		$27,441,250	$25	....	12-15-30	12	10⅛	12⅞	2	5¾	2½
57½	22	300	55	55	..	Skelly Oil pfd.	(sh)	119,800	$100	....	5- 1-31	90¾	42	62	10	33½	12
15½	6	67,100	13⅞	12¾	14	Socony-Vacuum		$792,711,738	$25	....	3-15-33	106⅜	98	106	87⅛	12¼	5¼
102½	92½	No sales ..	..	..	102½	Standard Oil Export pfd.	(sh)	764,885	$100	$2.50SA.	12-31-32	..	..	21	8⅜	100½	61
41⅞	19½	26,300	41	38⅝	41⅞	Standard Oil of California	(sh)	13,102,900	N.P.	25cQ	6-15-33	75	42½	51⅜	23⅛	31⅞	15⅛
28½	12¾	1,100	28½	26	..	Standard Oil of Kansas		$8,000,000	$25	....	3-16-31	49	14⅜	19	7⅜	16½	7
42¼	22¾	53,400	41½	39⅞	42	Standard Oil of New Jersey		$637,961,700	$25	50cSA	6-15-33	84⅞	32½	52½	26	37⅜	19⅞
50	35	No sales ..	..	..	..	Sun Oil	(sh)	1,531,422	N.P.	25cQ	6-15-33	70	39	45¼	26¾	39⅞	24⅝
4½	¾	26,800	3¾	2⅜	3⅜	Superior Oil Corp.	(sh)	776,979	N.P.	....	12-20-30	9⅜	¾	1⅜	¼	2	¼
29¾	10¾	37,600	27⅞	26⅛	29	The Texas Corporation		$246,204,900	$25	25cQ	7- 1-33	60½	28¼	36¼	9⅝	18¼	9¼
6½	1⅜	5,600	5⅛	4¼	4⅝	Texas Pacific Coal & Oil Co.		$9,304,890	$10	....	12-31-29	14½	4	6½	1⅞	4	1½
19	9¼	100	19	19	..	Tide Water Oil	(sh)	2,190,323	N.P.	....	12-31-32	31	13	18	9⅞	10	5
68	45	900	68	67	..	Tide Water Oil pfd.	(sh)	199,446	N.P.	....	2-15-33	94⅞	71	83	30	62	30
10¾	3⅛	18,800	10¼	9	9⅞	Tide Water Associated	(sh)	5,611,100	N.P.	....	2-16-31	17¾	5⅞	9	2⅛	5⅝	2
55	23½	200	52¾	51	53	Tide Water Associated pfd.		$73,284,500	....	....	1- 1-33	89¾	55	68	20½	60	20
23⅜	8½	25,000	22⅛	19¾	22	Union Oil of California	(sh)	4,386,070	$25	25cQ	8-10-33	50	10⅛	26⅝	11	15⅜	8
22¾	10½	700	18½	17¾	18¾	Union Tank Car	(sh)	1,254,048	N.P.	30cQ	6- 1-33	38½	23	25⅛	16	19¼	11¾
4⅞	⅝	1,300	3⅛	2¾	3	Warner-Quinlan	(sh)	632,948	N.P.	....	7- 1-30	27	4¼	7⅜	⅞	2¼	½
5½	2	3,300	4	3½	4	Wilcox Oil & Gas	(sh)	428,967	$5	...	5-10-28	21	6½	9⅜	2¾	8⅝	2⅜

*Ex-dividend. †Interim dividend for 1931. §Payable in 5% convertible preferred stock. A—Paid this year; no regular rate.

In comparing highs and lows for the several years in the three tables, it will be necessary to take into consideration cases where there have been stock split-ups.

Oklahoma-Kansas and Eastern Monthly Pipe Line Report

OKLAHOMA-KANSAS
Pipe Line Statement for May

RUNS

Company—	Month (bbls.)	Dly av. (bbls.)
Gulf P. L. Co.	1,751,402	56,497
Texas P. L. Co.	559,280	18,041
Empire P. L. Co.	2,701,351	87,140
Magnolia P. L. Co.	972,433	31,369
Cosden P. L. Co.	606,558	19,576
Stanolind P. L. Co.	2,232,000	72,000
Oklahoma P. L. Co.	1,912,161	61,682
Other lines	5,890,000	190,000
Total May	16,625,486	536,305
Total April	15,552,198	518,407
Difference	1,073,288	17,898

SHIPMENTS

Gulf P. L. Co.	1,216,325	39,236
Texas P. L. Co.	1,240,522	40,017
Empire P. L. Co.	2,553,254	82,528
Magnolia P. L. Co.	1,077,555	34,763
Cosden P. L. Co.	727,005	23,452
Stanolind P. L. Co.	3,824,627	123,377
Oklahoma P. L. Co.	1,913,593	61,739
Other lines	6,107,000	197,000
Total May	18,665,441	602,112
Total April	18,191,505	606,384
Difference	473,936	4,272

STOCKS

Sinclair Oil Marketing Co.*	30,532,000
Gulf P. L. and Gypsy Oil Co.	7,188,021
Texas Co.	2,431,025
Empire P. L. Co.	4,486,955
Mid-Continent Petroleum Corp.	2,079,246
Stanolind Crude Oil Pur. Co.*	13,293,000
Magnolia Petroleum Co.	7,039,200
Oklahoma P. L. Co.	899,725
Carter Oil Co.	2,623,671
Other lines	19,693,000
Total May	90,035,843
Total April	92,587,390
Difference	2,551,547

*Estimated. Stanolind Pipe Line Co. shipments include Texas crude oil.

EASTERN PIPE LINE REPORT FOR MONTH OF JUNE

Runs From Wells

In the following table will be found the regular receipts from wells by various pipe lines in New York, Pennsylvania, West Virginia, Ohio, Kentucky, Illinois, Indiana and Michigan for May and June:

	May, 1933	June, 1933
Nat. Transit	243,156.35	270,263.45
S.W. Pa. P. L.	62,644.24	68,914.75
Eureka P. L.	250,116.77	256,808.24
Buckeye P. L. (Macksburg)	220,297.83	222,267.18
Buckeye P. L. (Cleveland)	8,920.91	9,391.35
Buckeye P. L. (Lima, etc.)	64,532.08	73,624.86
Indiana P. L.	695.60	655.40
Stoll Oil Ref.	26,420.60	21,958.26
Bradford Trans.	397,098.78	384,731.68
N. Y. Transit	30,965.35	31,311.03
Tide Water P. L.	24,799.31	25,407.79
Pure Oil	428,736.97	375,581.37
Daugherty Ref.	577.00	616.00
Valvoline Pipe	71,447.26	68,930.05
Other companies	208,919.68	210,519.23
Total	2,038,423.13	2,021,120.71
Daily average	65,755.75	67,370.69

Petroleum Deliveries

The following tables exhibit the shipments or regular deliveries of various pipe lines in New York, Pennsylvania, West Virginia, Ohio, Kentucky and Indiana for May and June:

	May, 1933	June, 1933
Nat. Transit	545,116.94	608,943.97
S.W. Pa. P. L.	451,255.97	421,304.09
Eureka P. L.	253,424.60	263,272.03
Buckeye P. L. (Macksburg)	253,868.25	217,230.34
Buckeye P. L. (Cleveland)	1,462.82	1,458.93
Buckeye P. L. (Lima, etc.)	1,579,982.98	1,625,099.81
Indiana P. L.	951,287.63	1,099,519.92
Bradford Trans.	385,472.09	431,437.99
Southern P. L.	40,802.96	.....
Tuscarora	293,673.40	173,661.36
N. Y. Transit	178,587.66	181,799.16
Northern P. L.	151,384.10	175,304.30
Tide Water P. L.	492,837.03	488,821.27
Pure Oil	432,795.19	488,095.86
Valvoline Pipe	29,600.21	60,139.43
Other companies	156,272.19	173,538.67
Total	6,189,824.32	6,359,426.99
Daily average	199,671.75	211,980.89

Gross Stocks

The gross stocks held by various pipe lines in the oil producing sections of New York, Pennsylvania, West Virginia, Ohio, Indiana and Kentucky at the close of May and June:

	May, 1933	June, 1933
Nat. Transit	551,834.51	495,594.28
S.W. Pa. P. L.	391,998.34	344,235.39
Eureka P. L.	927,522.86	890,290.80
Buckeye P. L. (Macksburg)	293,102.34	313,071.25
Buckeye P. L. (Cleveland)	33,384.45	38,066.11
Buckeye P. L. (Lima, etc.)	2,232,702.46	2,193,477.36
Indiana P. L.	506,374.87	474,406.69
Bradford Trans.	340,988.78	299,398.86
Southern P. L.	126,142.61	124,847.93
Tuscarora	8,200.35	7,807.56
N. Y. Transit	65,713.73	69,124.43
Northern P. L.	257,612.40	231,399.98
Tide Water P. L.	762,341.31	808,965.21
Pure Oil	242,858.14	189,375.69
Valvoline	149,094.44	129,736.60
Other companies	137,698.51	136,482.22
Total	7,016,621.63	6,766,038.23
Decrease	195,927.13	250,582.40

Grades of Oil

The following table shows the amount of the different grades of oil held by the eastern pipe lines at the close of May and June, showing gross stocks of the above fields:

	May, 1933	June, 1933
Pennsylvania	2,900,035.64	2,726,911.68
Lima	424,603.63	429,927.14
Kentucky	299.42	299.42
Mid-Continent	3,538,293.95	3,471,098.58
Illinois	13,806.54	12,918.30
Michigan	149,578.35	124,883.01
Total	7,016,621.63	6,766,038.23

Daily Average Runs

The following table shows the daily average runs of the Pennsylvania, Lima and Kentucky oil fields for the past four years:

	1930	1931	1932	1933
Jan.	75,907	53,928	53,501	64,492
Feb.	79,256	55,162	55,499	65,140
Mar.	76,668	54,321	57,199	59,417
Apr.	84,536	54,914	57,348	61,812
May	76,546	52,344	59,105	65,755
June	75,430	54,110	64,371	67,376
July	68,921	50,723	63,402	.....
Aug.	54,291	51,503	67,676	.....
Sept.	56,595	61,345	65,423	.....
Oct.	58,179	65,595	65,960	.....
Nov.	52,332	59,319	60,602	.....
Dec.	53,999	61,335	57,401	.....

Daily Average Shipments

The following table gives daily average shipments from the Pennsylvania, Lima and other fields for the past four years:

	1930	1931	1932	1933
Jan.	217,623	175,269	186,551	198,996
Feb.	224,355	183,494	169,856	187,928
Mar.	228,846	189,508	188,793	183,632
Apr.	241,845	191,450	202,036	181,940
May	248,333	199,247	201,404	199,671
June	234,401	221,155	201,632	211,980
July	207,094	211,632	202,859	.....
Aug.	205,506	224,166	187,839	.....
Sept.	193,399	217,537	170,524	.....
Oct.	187,675	210,631	188,504	.....
Nov.	146,638	196,425	159,626	.....
Dec.	143,001	176,241	156,135	.....

Gross Stocks

In the following table will be found the gross stocks of the various lines of the Pennsylvania, Lima and Kentucky oil fields, including oil received from other lines at the close of each month for the past three years:

	1931	1932	1933
Jan.	11,831,092	9,023,914	7,608,270
Feb.	11,506,489	8,974,350	7,302,746
Mar.	11,012,162	8,802,192	7,279,843
Apr.	11,044,481	8,908,461	7,212,548
May	10,728,239	8,835,726	7,016,621
June	9,903,349	8,732,724	6,766,038
July	9,569,849	8,176,956	.....
Aug.	9,192,457	8,128,576	.....
Sept.	8,492,431	7,895,421	.....
Oct.	8,417,694	7,421,620	.....
Nov.	8,536,336	7,116,200	.....
Dec.	9,119,032	7,139,420	.....

The Illinois Field

The following table gives the report of the Illinois Pipe Line Co. in Illinois:

	Bbls.
Gross stocks, July 1	550,999.85
Runs from wells	395,458.08
Other receipts	53,669.51
Regular deliveries	325,300.96
Other deliveries	77,476.30

The amount of Illinois oil run by the Tide Water Pipe Co. in June was 25,407.79 bbls. Deliveries were 25,483.40 bbls. Adding these figures to those of the Illinois Pipe Line Co. makes the runs and deliveries as follows:

	Runs	Deliveries
1933—		
June	420,865.87	350,984.36
1932—		
January	500,177.12	246,634.10
February	482,561.50	186,010.30
March	565,538.70	270,617.75
April	461,920.92	285,817.98
May	521,384.64	279,859.88
June	501,878.26	263,703.70
July	466,635.89	284,537.18
August	476,095.53	307,325.89
September	436,529.00	329,994.39
October	373,680.67	352,630.34
November	346,880.27	338,351.23
December	336,072.57	317,749.63
1933—		
January	344,054.84	314,108.93
February	306,520.61	294,340.35
March	385,665.57	314,514.48
April	311,146.72	356,455.50
May	361,901.38	334,420.38

Tide Water Pipe Co., Ltd., also delivered in June 89,204.71 bbls. Oklahoma oil.

Average Daily Imports of Crude and Refined Oil at Principal United States Ports

Average barrels per day in 1932-33—	ATLANTIC PORTS: Baltimore	Boston	New York	Philadelphia	Others	Total	GULF COAST PORTS: Galveston	New Orleans, Baton Rouge	Port Arthur, Sabine Pass	Tampa	Total	Total all ports
June	30,900	11,700	159,300	23,733	29,900	294,533	.....	.....	12,867	.....	12,867	307,400
July	2,613	2,161	62,968	14,935	2,129	84,806	.....	.....	.....	.....	.....	84,806
August	3,323	2,161	72,675	25,613	2,098	105,871	.....	.....	.....	.....	.....	105,871
September	5,100	3,200	57,900	12,167	10,066	87,433	.....	.....	.....	.....	.....	87,433
October	14,933	.....	73,193	36,645	7,129	124,000	.....	.....	.....	.....	2,000	126,000
November	14,167	.....	49,967	19,233	5,900	92,267	.....	.....	.....	.....	2,133	94,400
December	14,258	3,065	84,333	28,162	9,256	138,064	.....	.....	.....	.....	5,226	143,290
January	7,644	4,355	64,194	35,710	6,613	108,516	.....	.....	.....	.....	548	109,064
February	7,483	4,759	130,490	12,610	10,833	156,393	.....	.....	.....	.....	2,357	158,750
March	7,710	4,290	101,258	36,292	16,000	165,290	.....	.....	.....	.....	.....	165,290
April	10,000	6,700	73,433	32,267	9,967	132,367	.....	.....	.....	.....	.....	132,367
May	4,258	2,194	62,484	22,548	3,255	94,839	.....	.....	.....	.....	4,355	99,194

Average Daily Receipts of California Crude and Refined Oil at Atlantic and Gulf Ports

Average barrels per day in 1932-33—	ATLANTIC PORTS: Baltimore	Boston	New York	Philadelphia	Others	Total	GULF COAST PORTS: Galveston	New Orleans, Baton Rouge	Port Arthur, Sabine Pass	Tampa	Total	Total all ports
June	2,500	.....	17,333	3,933	833	24,600	.....	.....	.....	.....	.....	24,600
July	2,323	.....	23,226	8,677	8,935	42,161	.....	.....	.....	.....	.....	42,161
August	4,452	.....	22,484	7,548	7,677	42,161	.....	.....	.....	.....	.....	42,161
September	2,900	.....	5,000	11,633	7,967	27,500	.....	.....	.....	.....	.....	27,500
October	3,387	1,226	14,452	9,355	8,193	36,613	.....	.....	.....	.....	.....	36,613
November	4,667	.....	21,700	7,767	2,366	36,500	.....	.....	.....	.....	.....	36,500
December	4,129	.....	15,678	5,322	8,226	33,355	.....	.....	.....	.....	4,903	38,258
January	968	1,484	20,903	2,742	18,044	45,161	.....	.....	.....	.....	.....	45,161
February	9,196	1,843	14,250	10,966	11,500	47,464	.....	.....	.....	.....	2,643	50,107
March	5,065	.....	16,516	9,968	12,935	45,484	.....	.....	.....	.....	7,484	52,968
April	6,000	.....	14,500	7,733	4,934	33,167	.....	.....	.....	.....	4,900	38,067
May	4,194	.....	15,355	14,293	5,871	39,713	.....	.....	.....	.....	4,452	44,065

Gross Production of Crude Oil in the United States for 12 Months

(In barrels of 42 gallons)

1932-33—		California	Oklahoma	Texas	Kansas	Arkansas	Louisiana	Rocky Mts.	Eastern	Total
July:	Month	14,627,550	13,030,571	26,946,714	2,906,808	1,060,386	1,933,757	2,584,648	3,723,000	66,783,434
	Daily average	471,856	420,341	869,248	93,768	34,206	62,379	83,408	120,097	2,154,394
August:	Month	14,339,951	13,743,666	26,924,953	3,046,959	1,062,897	1,870,764	2,413,536	3,873,000	66,775,726
	Daily average	478,708	411,086	868,547	98,289	34,287	60,347	77,856	124,935	2,154,056
September:	Month	14,351,140	11,705,280	27,366,515	2,970,750	1,019,350	1,939,161	2,389,200	3,618,000	65,249,396
	Daily average	478,371	390,176	912,217	99,524	33,975	64,305	76,310	120,599	2,174,980
October:	Month	14,627,663	11,915,811	27,213,832	2,892,486	1,019,931	1,962,063	2,354,444	3,814,000	65,701,230
	Daily average	471,864	384,381	877,866	93,306	32,901	63,325	72,724	123,033	2,119,394
November:	Month	14,142,389	11,246,930	26,155,652	2,841,780	1,020,600	1,962,943	2,169,685	3,578,000	63,211,979
	Daily average	471,413	374,898	871,855	94,726	34,020	65,431	72,323	119,267	2,107,066
December:	Month	14,595,028	11,637,171	23,487,618	2,777,879	1,037,539	1,966,481	2,067,855	3,694,000	61,263,771
	Daily average	470,807	375,393	757,672	89,609	33,469	63,435	66,705	119,161	1,976,251
January:	Month	14,460,282	12,550,784	26,115,932	2,871,282	993,457	2,021,117	2,341,610	3,113,000	64,366,464
	Daily average	466,461	404,864	842,449	92,622	32,047	65,197	72,310	100,387	2,076,338
February:	Month	13,107,042	12,570,992	25,092,283	2,801,512	880,208	1,793,443	2,096,612	2,747,000	61,089,192
	Daily average	468,109	448,964	896,154	100,054	31,436	64,051	74,879	98,011	2,181,787
March:	Month	13,414,980	15,455,236	24,242,444	3,004,539	943,702	2,070,695	2,371,469	3,115,000	76,321,065
	Daily average	432,741	498,556	1,104,595	116,276	30,442	66,797	76,499	100,381	2,426,486
April:	Month	14,262,943	11,720,010	27,306,582	3,492,990	909,120	2,156,736	2,309,470	3,017,000	65,074,851
	Daily average	475,431	390,667	910,219	116,433	30,304	71,891	76,949	100,567	2,169,162
May:	Month	14,317,632	13,521,580	49,151,776	3,277,103	938,607	2,116,296	2,294,558	3,177,000	89,384,613
	Daily average	477,988	436,180	1,585,541	105,713	29,957	68,268	74,018	102,161	2,880,149
June:	Month	14,344,654	14,339,070	29,907,727	3,210,150	901,770	2,009,831	2,232,650	3,057,000	80,009,852
	Daily average	478,155	477,969	1,330,358	107,035	30,059	66,994	74,655	101,900	2,666,995
	Total 12 months	171,551,256	153,531,101	358,512,338	36,694,238	11,777,527	22,794,287	27,202,827	40,525,000	824,031,584
	Daily average	470,113	417,893	986,061	100,532	32,267	62,189	74,528	111,036	2,257,631

CLASSIFIED ADVERTISING

Classified Rates

The rates for Classified Advertisements are 35 cents a line for the first insertion and 25 cents a line for each additional insertion. The following table will enable you to figure the cost of your advertisement:

	1 time	2 times	3 times	4 times
3 lines	$1.05	$1.80	$2.55	$3.30
4 lines	1.40	2.40	3.40	4.40
5 lines	1.75	3.00	4.25	5.50
6 lines	2.10	3.60	5.10	6.60
7 lines	2.45	4.20	5.95	7.70
8 lines	2.80	4.80	6.80	8.80
9 lines	3.15	5.40	7.65	9.90
10 lines	3.50	6.00	8.50	11.00

Six words usually constitute a line.

Compute white space at the above rates.

For rates on Classified DISPLAY see opposite column.

Mail your Classified Advertisement to THE OIL AND GAS JOURNAL Tulsa, Oklahoma.

For Sale—Equipment

25 K.W. and 40 K.W. Gas Engines, 220 volts, D.C. Two 100 K.W. Gas Engine Generator Sets, 220 volts, D.C. 7x6 Ingersoll-Rand ER-1 Air Compressor. Six-inch Oster Pipe Threading Machine. Also, large stock of lathes, pipe machines, milling machines, etc. Send for our list. Terms to suit.
CINCINNATI MACHINERY & SUPPLY CO.
26 West 2nd St. Cincinnati, Ohio.

ONE 165 H.P. Type 10 Bessemer Direct Driven Compressor in good running condition. Also 2 spare power cylinders. Bargain. Nolan Sales Corp., Tulsa, Okla.

FOR SALE OR LEASE
50 Insulated 8,000 gallons, clean tank cars. General American make.
THE HENDERSON COMPANY
818 McBirney Bldg.,
Tulsa, Oklahoma.

FIRST CLASS Skimming Plant. Crude plentiful. Anyone with executive ability and salesmanship can make small fortune with this plant. Would agree to purchase part of output. Terms to right party. Address Box F-803, The Oil and Gas Journal, Tulsa, Okla.

HAVE 2,100' 6⅝, 24-lb ss, and 2,500' 5½, 20-lb ss at Sayer, Okla.; last run this well new 4 years ago. Offer subj. 85c and 75c on lease. Write, phone, wire LOCKE and COMPANY, Suite 1107 Ramsey Tower, Oklahoma City. 7-7242.

Oil Industry Printing

OIL FIELD LEGAL BLANKS
Leases, assignments, releases, township plat books, well records, etc. Request on your letterhead gets free catalog. Olds Press, 215 East Third St., Tulsa, Okla.

Business Opportunities

FOR SALE—Fully equipped MACHINE AND FORGE SHOP, doing oil field work in good oil town on railway siding, established trade. Quick returns on investment with proper management. Money talks here, no trades considered. Address Box F-802, The Oil and Gas Journal, Tulsa, Okla.

FOR LEASE or sale attractive gold placer property near Hillsboro, N. M. Sophia Meyer, Massie Building, Amarillo, Texas.

Patent Attorneys

REGISTERED PATENT ATTORNEYS
United States and Canada
Before disclosing your invention to anyone, send for blank form:
"Evidence of Conception,"
Instructions "How to Establish Your Rights" and complete information FREE!
LANCASTER, ALLWINE & ROMMEL
418 Bowen Building,
Washington, D. C.

Financing

JAMES E. MILLER CO., 207½ E. Third St., Tulsa, Okla., will co-operate with responsible parties seeking aid in financing projects of higher order.

Established organization with record of successful accomplishment offers immediate action in financing of sound projects.
HENRY W. BENSON ASSOCIATES, INC.
92 Liberty Street, New York, N. Y.

Royalties—Production

BETTER CLASS MONTHLY INCOME ROYALTIES
W. E. Cook, Court Arcade, Tulsa, Okla.

GULF COAST AND "CONROE TREND" ROYALTIES
Producing Royalties and Royalties just ahead of development in most active districts. Selections based on expert advice and 20 years' practical experience. A service of real value to royalty buyers.
C. C. CANNAN
2006 Esperson Bldg., Houston, Tex.

MINERAL rights and royalties covering oil and gas and all other minerals on eight thousand acres of land in Hancock County, Kentucky, for sale at a bargain, either in part or as a whole, drilling operations are now under way contracting ten wells, several coal mines now operating on royalty basis, semi proven as oil producing property. Address Eureka Drilling Company, Box R 19, Hawesville, Kentucky.

TEXAS ROYALTIES ahead of development. Perpetual Mineral Deeds. Low Prices. Attractive Buys. Dealers and Salesmen protected territory. Wm. T. Earnest, Drawer 2177, Dallas, Texas.

Royalties—Production

APPRAISALS & REPORTS ON OIL, GAS & ROYALTY PROPERTIES BY—F. W. FREEBORN ENGINEERING CORP. 20 Years Mid-Continent Fields.
Alexander Bldg., Tulsa, Okla.
Phone 4-6938.

ROYALTIES CAREFULLY SELECTED
Oklahoma — Kansas — Texas
G. D. TERRIEN
Philcade Building, Tulsa, Okla.

PRODUCING OIL ROYALTIES
Bought and Sold.
Inquiries invited from Oil Companies, Bankers, Dealers.
DAVID R. MITCHELL & CO.,
Established 1916.
20 BROAD ST. NEW YORK.

ROYALTIES for dealers, producing, nonproducing Oklahoma, Kansas, Texas, Louisiana. Lowest prices and highest quality. James R. Haynes, Grantville, Kans.

PERPETUAL DEEDED ROYALTIES
Your selection of over 400,000 acres. Some major company blocks. H. H. White, Box 674, San Antonio, Tex.

SELECTING OIL ROYALTIES
for dealers a specialty.
Kansas-Oklahoma City-Seminole.
Chester Imes,
First National Bank Building,
Oklahoma City, Okla.

CHOICE INCOME OIL ROYALTIES. Kansas and Oklahoma, for investors and dealers. J. L. HANER, 105 McKibbon Bldg., Muskogee, Okla.

ROYALTIES FOR INVESTMENT
Andrew J. Barrett,
Suite 1903, The Philtower,
Tulsa, Okla.

PRODUCING OIL ROYALTIES
in Fractional deeds from $100 up.
John L. Dickson, Box 1113, Tulsa, Okla.

HIGH GRADE producing oil and gas royalties offered to dealers. Billie Smallwood, P. O. Box 2261, Tulsa, Okla.

How to Secure Good Results Through Classified Ads

First of all, decide upon the group of men with whom you wish to do business; then find the publication upon which they depend for accurate, weekly information—*then advertise in that publication.*

Oil Men, Producers, Refiners, Marketers, Natural Gasoline Manufacturers, Pipeline Operators, Exporters, Contractors, Superintendents, read The Oil and Gas Journal every week.

They represent one of the wealthiest and most progressive groups of men in the world. They have an immense buying power, in addition to a strong inclination to *buy now* for current activities.

Advertise now and you will get good results. Let the influential readers of The Oil and Gas Journal know about your property, product, or service and they will be glad to deal with you.

Send your ad today. Then it will be read and re-read by men who have not only the inclination, but also the means to put over big deals quickly.

THE OIL AND GAS JOURNAL
Classified Department
TULSA, OKLAHOMA

Display Rates

The rate for Classified Display Advertising set in similar style to this Ad or in two-Column style is as follows for each insertion:

1 inch	1 time	$5.00
1 inch	13 times	4.50
1 inch	26 times	4.00
1 inch	52 times	3.50

Rates for Classified without display shown on opposite column.

One point borders and ten point capitals are allowed, larger type not accepted.

Changes in copy must be in our office 10 days in advance of publication date.

Mail your advertisement to the Largest Classified Section in the Oil Industry.

THE OIL AND GAS JOURNAL
Tulsa, Oklahoma.

Leases—Production

NEW MEXICO Oil and Gas Leases and royalties. Send 50 cents in stamps for new State Oil Map of New Mexico. Roy G. Barton, Clovis, New Mexico.

BROKERS—Well located leases and perpetual royalties at wholesale prices, small and large tracts. Write A. C. Smith, P.O. Box 927, Houston, Texas.

WRITE for particulars; experienced leaseman; knows geology; can identify surface structure; employs latest energy instrument in determining saturation of folds, faults, or lensing. Arthur Nickell, Fayette, Missouri.

CHOICE located lease and Royalty Shell well Leon County. Chance make 40 for one next 30 days. If you have money and interested, write quick, if broke, kindly save your time and mine. E. Croft, Proctor, Texas.

Incorporations

CHARTERS—Delaware best, quickest, cheapest, most liberal. Free forms. Colonial Charter Co., Wilmington, Del.

DELAWARE CHARTERS—Fees small, free forms. CHAS. G. GUYER, 901 Market St., Wilmington, Del.

Situations Wanted

REFINERY SUPERINTENDENT and CHEMIST, ten years complete plant experience. Technical training. Available at once. Write Box F-770, The Oil and Gas Journal, Tulsa, Okla.

HIGH CLASS LAND MAN, young, energetic and well educated major company experience Texas and Louisiana, exceptional ability, capable handling division office. Gulf Coast preferred. Address Box F-790, The Oil and Gas Journal, Tulsa, Okla.

CHEMIST Tech. B.S. in ch. eng., 26, exp. would like connections in oil refinery. Location immaterial. Address Box F-801, The Oil and Gas Journal, Tulsa.

ENGINEER-DESIGNER, Sectional Steel Buildings and Oil field structures. Technical graduate, age 33, married. Address Box F-800, The Oil and Gas Journal, Tulsa, Okla.

Help Wanted

WANTED—SALES MANAGER for Pennsylvania Refiner. Give experience and details. Address Box F-804, The Oil and Gas Journal, Tulsa, Okla.

Compensate.

OR SOCK YOURSELF ON THE JAW

A hornet lights on your chin . . . your hand rises, brushes it off. It's instantaneous—and *automatic.*

Even to the compensation! For when one set of muscles starts to yank your arm up, a compensating system restrains it. And a good thing, too; for if your arm-muscles weren't self-compensating, you'd treat yourself to a sock on the jaw that would make a hornet's bite look like a blessing.

Self-compensation is as vital in control instruments as it is in your arm. In Mason-Neilan Instruments it is as automatic and as sure. The adjustable Mason-Neilan Control Valve Compensator, standard on every instrument, restrains every control reaction exactly the right amount to prevent over-control; definitely stops the controlled temperature, pressure, or rate-of-flow from giving itself a wallop when all it needs is a gentle adjustment.

This is important to you in controlling your gasoline plant or refinery. It means that your Mason-Neilan Instrument will not *hunt* . . . will not *cycle* . . . will exhibit almost human reasoning in the precision of its control—*and far more than human reliability.*

For exact control of temperatures, pressures and rates-of-flow, specify Mason-Neilan Control Instruments.

MASON-NEILAN

REGULATOR COMPANY

[*Consolidation of Mason Regulator Co. of Boston and Neilan Co., Ltd., of Los Angeles.*]

1190 Adams Street, Boston, Mass.

BALTIMORE, Whitaker Bldg. . . . . Morton McI, Dukehart & Co,
BERKELEY, CAL., 1578 LeRoy Avenue . . . . . Don Church, Mgr.
CHICAGO, 1525 E. 53rd. St. . . . . Arthur J. Foley, Mgr.
HOUSTON, 1400 Conti St. . . . . Maintenance Engineering Corp.
LOS ANGELES, 641-651 Santa Fe Ave. . . . . Geo. B. Allen, Mgr.
MONTREAL, CANADA, 620 Cathcart St. . . . . Maurice Poiler, Mgr.
NEW YORK, 19 Rector St. . . . . Rudolph B. Werey, Mgr.
PHILADELPHIA, 930 North Front St. . . . . Baeuerle & Morris, Inc.
PITTSBURGH, Clark Bldg. . . . . Bruce Irwin, Mgr.
ST. LOUIS, 2726 Locust Blvd. . . . . O'Brien Equipment Co.
SYRACUSE, N. Y., 640 Gurney Bldg. . . . . O'Brien Steam Specialty Co.
CLEVELAND, OHIO, 1836 Euclid Ave. . . . . C. F. Mason, Mgr.
TULSA, 409 East Archer St. . . . . Gordon Thomason, Mgr.

"YOU CAN BE SURE OF MASON-NEILAN PRODUCTS"

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